CHALLENGE SPARTAN 185 SERVICE MANUAL

Serial Numbers 051001 & Up

Technical Service And Parts Manual

SPARTAN 185 SA/A/AEP AUTOMATIC PAPER CUTTER

Sold and Serviced by

The Challenge Machinery Company
6125 Norton Center Drive
Norton Shores, MI. 49441

www.challengemachinery.com

MyBinding.com
When Image Matters.

F.185-T
Jul. 2006

NOTES

Challenge® is a registered trademark of The Challenge Machinery Company•
6125 Norton Center Drive • Norton Shores, MI 49441-6081

Copyright© 2006 by The Challenge Machinery Company. All rights reserved. Printed in the U.S.A

MyBinding.com When Image Matters.

1.0 Introduction

THIS MANUAL is designed to help you get the most from your Challenge equipment. Keep this manual in a safe, convenient place for quick reference by operators and service personnel.

⚠ CAUTION **SAFETY ALERT!** This symbol means **CAUTION: Personal safety instructions!** Pay special attention to the instructions in bold type. Personal injury may result if the precautions are not read and followed.

FOR PARTS AND SERVICE contact the Authorized Challenge Dealer from whom you purchased your machine. Use the illustrations and parts lists at the back of this manual to identify the correct parts needed. Always give the **SERIAL NUMBER** and **MODEL** of your machine to insure the correct parts are sent as soon as possible.

MyBinding.com When Image Matters.

TABLE OF CONTENTS

1.0 Introduction 3
2.0 Safety 6
2.1 Precautions 6
2.2 Power Lockout Procedure 6
2.3 Warning Label Definitions 7
3.0 Maintenance Guide 9
3.1 Routine Maintenance (All Models) 10
3.1.1 Weekly 10
3.1.2 Monthly 10
3.1.3 Yearly 10
3.2 Cleaning (All Models) 10
3.2.1 Table 10
3.2.2 Display Panel 10
3.2.3 Machine Exterior 11
3.3 Lubrication (All Models) 11
3.3.1 Clamp 11
3.3.2 Backgauge Lead Screw and Guide Shaft 11
3.4 Accessing the Electrical Panel (All Models) 12
3.5 Adjustments 13
3.5.1 Squaring the Backgauge (All Models) 13
3.5.2 Backgauge Accuracy Adjustment (Models: SA and A) 14
3.5.3 Backgauge Accuracy Adjustment (Models: AEP) 16
3.5.4 Knife Bar Gib Adjustments (All Models) 16
3.5.5 Knife Leveling Adjustment (All Models) 16
3.5.6 Backgauge Gib Adjustments (All Models) 18
3.5.7 Lead Screw Collars (Models: SA and A) 18
3.5.8 Line Light Adjustment (All Models) 19
3.5.9 Front Guard Switch Adjustment (All Models) 20
3.5.10 Knife/Clamp Sequence Adjustment (Models: A and AEP) 20
3.5.11 Clamp-Up Limit Switch Adjustment (Models: A and AEP) 21
3.5.12 Knife-Up Limit Switch Adjustment (All Models) 22
3.5.13 Knife-Down Limit Switch Adjustment (All Models) 23
3.5.14 Re-engaging the Knife Pull-Down Gear (All Models) 24
3.6 Troubleshooting 26
4.0 Parts Lists 28
4.1 Main Asm. – Backgauge Drive (Models: SA, 120/230V, 50/60 Hz) 28
4.2 Main Asm. – Backgauge Drive (Models: A, 120/230V, 50/60 Hz) 30
4.3 Main Asm. – Backgauge Drive (Models: AEP, 120/230V, 50/60 Hz) 32
4.4 Main Asm. – Knife Drive (All Models) 34
4.5 Main Asm. – Bottom Side Electrical (Models: SA, 120V, 60 Hz) 36
4.6 Main Asm. – Bottom Side Electrical (Models: A/AEP, 120V, 60 Hz) 38
4.7 Main Asm. – Bottom Side Electrical (Models: SA, 230V, 60 Hz) 40
4.8 Main Asm. – Bottom Side Electrical (Models: A/AEP, 230V, 60 Hz) 42
4.9 Main Asm. – Bottom Side Electrical (Models: SA, 230V, 50 Hz) 44
4.10 Main Asm. – Bottom Side Electrical (Models: A/AEP, 230V, 50 Hz) 46
4.11 Main Asm. – Clamp (Models: SA, 120/230V, 50/60 Hz) 48
4.12 Main Asm. – Clamp (Models: A/AEP, 120V, 60 Hz) 50
4.13 Main Asm. – Clamp (Models: A/AEP, 230V, 50/60 Hz) 52
4.14 Main Asm. – Knife (All Models) 54
4.15 Main Asm. – Front Shield (All Models) 56
4.16 Main Asm. – Backgauge (All Models) 58
4.17 Main Asm. – Top Side Elec. (Models: SA, 120/230V, 50/60 Hz) 60
4.18 Main Asm. – Top Side Elec. (Models: A/AEP, 120/230V, 50/60 Hz) 62
4.19 Main Asm. – Covers and Labels (Models: SA, 120/230V, 50/60 Hz) 64

MyBinding.com When Image Matters.

4.20 Main Asm. – Covers and Labels (Models: A, 120/230V, 50/60 Hz) 66
4.21 Main Asm. – Covers & Labels (Models: AEP, 120/230V, 50/60 Hz) 68
4.22 Main Asm. – Accessories (All Models) 70
4.23 Motor and Gearbox Assembly (All Models) 72
4.24 Magnet Assembly (All Models) 74
4.25 Floor Stand Assembly (All Models) 75
4.26 Electrical Schematic (Models: SA, 120V, 60 Hz) 76
4.27 Electrical Schematic (Models: SA, 230V, 50/60 Hz) 78
4.28 Electrical Schematic (Models: A, 120V, 60 Hz) 80
4.29 Electrical Schematic (Models: A, 230V, 50/60 Hz) 82
Electrical Schematic (Models: AEP, 120V, 60 Hz) 84
4.30 Electrical Schematic (Models: AEP, 230V, 50/60 Hz) 86
4.31 Elec. Interconnection Diagram (Models: SA, 120/230V, 50/60 Hz) 88
4.32 Elec. Interconnection Diagram (Models: A, 120/230V, 50/60 Hz) 90
4.33 Elec. Interconnection Diagram (Models: AEP, 120/230V, 50/60 Hz) 92
4.34 Electrical Power Panel Assembly (Models: SA, 120V, 60 Hz) 94
4.35 Electrical Power Panel Assembly (Models: SA, 230V, 50/60 Hz) 96
4.36 Electrical Power Panel Assembly (Models: A/AEP, 120V, 60 Hz) 98
4.37 Electrical Power Panel Assembly (Models: A/AEP, 230V, 50/60 Hz) 100
4.38 Relay Board Assembly (Models: SA/A/AEP, 120V, 60 Hz) 102
4.39 Relay Board Assembly (Models: SA/A/AEP, 230V, 50/60 Hz) 103
4.40 Display Assembly – (Models: SA, 120/230V, 50/60 Hz) 104
4.41 Display Assembly – (Models: A, 120/230V, 50/60 Hz) 105
4.42 Display Assembly – (Models: AEP, 120/230V, 50/60 Hz) 106

MyBinding.com
When Image Matters.

2.0 Safety

2.1 Precautions

- This machine is designed for one-person operation. Never operate the machine with more than one person.
- Safe use of this machine is the responsibility of the operator. Use good judgment and common sense when working with and around this machine.
- Read and understand all instructions thoroughly before using the machine. If questions remain, contact the dealer from which you purchased this machine. Failure to understand the operating instructions may result in personal injury.
- Only trained and authorized people should operate this machine.
- DO NOT ALTER SAFETY GUARDS OR DEVICES. They are for your protection. Severe personal injury may result.
- **Disconnect power** before cleaning or performing maintenance. See Section 2.2 Power Lockout Procedure.
- Observe all caution labels on this machine.
- Be sure the cutter is properly grounded.
- Be sure there is sufficient power to operate the cutter properly.
- Observe all caution plates mounted on this cutter.
- Keep foreign objects off table and away from cutter blade.
- **BE EXTREMELY CAREFUL** when handling and changing the cutter knife. Severe lacerations or dismemberment could result from careless handling procedures.
- Keep the floor around the cutter free of trim, debris, oil and grease.
- When replacing hydraulic parts, loosen the connections slowly to release pressure. Never loosen connections with the machine running.
- If the cutter sounds or operates unusually, have it checked by a qualified service person.
- **CRUSH HAZARD**, keep hand and fingers from under the clamp when clamping paper. Use Jogging Aid to load paper, and use the backgauge to push paper out before unloading. **DO NOT REACH UNDER THE KNIFE AND CLAMP AREA!**

2.2 Power Lockout Procedure

For maximum safety while making adjustments or repairs to your machine, be sure to disconnect power to the machine. Disconnect the power plug from its socket

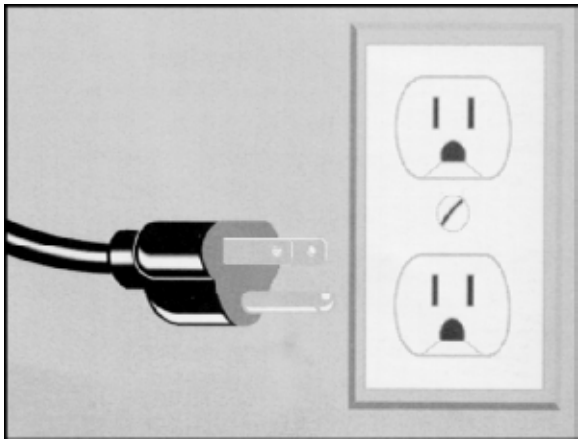


Figure 1 - Main Power Disconnect

MyBinding.com When Image Matters.

2.3 Warning Label Definitions

The following warning labels are found at various locations on your machine. Read and understand the meaning of each symbol. If a label is lost from the machine, it should be replaced.

HAZARDOUS AREA

Disconnect power before cleaning, servicing, or making adjustments not requiring power. Do not alter safety guards or devices; they are for your protection. Replace all guards. Do not operate with any guards removed.

SHOCK HAZARD

Disconnect power before removing cover. Replace cover before operation.

SHOCK HAZARD

Disconnect power before removing cover. Replace cover before operation.

SINGLE OPERATOR

Do not operate with more than one person.

MyBinding.com When Image Matters.

!OJO!

⚠ CAUTION This Este simbolo de alerta de seguridad significa ¡ OJO ! - INSTRUCCIONES DE SEGURIDADPERSONAL. Lea las instrucciones porque se refieren a su seguridad personal. Fall de obedecer las instrucciones que siguen podria resultar en lesiones corporales.

- Esta maquina, junto con sus mecanismos de seguridad, esta disenada para ser manejada por
- **UNA SOLA PERSONA** a la vez. Jamas debe ser manejada por mas de una persona al mismo
- tiempo.
- La seguridad es la responsabilidad del operario que usa esta maquina.
- **LEA DETENIDAMENTE** el manual de instrucciones y las **PRECAUCIONES DE SEGURIDAD** antes de poner a funcionar la cortadora. Pidale a su supervisor una copia.
- El manejo de la guillotina debe estar exclusivamente a cargo de personal entrenado y autorizado para ello.
- **NO MODIFIQUE LOS MECANISMOS DE SEGURIDAD**, estan ahi para su proteccion no deben ni modificarse ni quitarse.
- **DESCONECTE LA CORRIENTE ELECTRICA** antes de proceder a hacerle servicio de limpieza, engrasar, o de hacer adjustes que no requieren corriente. Trabe el interruptor en la posicion **OFF** (apagado); vea “Procedimiento para cortar la corriente electrica” al pie de esta pagina.
- Eche llave a la guillotina y quite la llave cuando la maquina no esta en operacion; vea “Corriente electrica”.
- Asegurese de que la guillotina este debidamente a tierra. Vea “Conexion de la fuerza electrica”.
- Verifique el voltaje y asegurese de que este sea suficiente para el debido funcionamiento de la guillotina.
- Preste atencion a todas las placas con advertencias instaladas en esta guillotina.
- No permita que objetos estranos esten en la mesa o cerca de la cuchilla cortadora.
- **TENGA SUMO CUIDADO** al tocar y cambiar la cuchilla. Heridas severas y hasta desmembramiento pueden resultar del manejo sin cuidado o negligente.
- El suelo alrededor de la guillotina debe mantenerse despejado y libre de recortes, desperdicios, aceite y grasa.
- Al haber la necesidad de reemplazar partes hidraulicas, afloje todas las conexiones poco a poco para dejar escapar la presion. Jamas debe aflojarse conexiones mientras la maquina este
- andando.
- Si la guillotina empezara a sonar o trabajar diferentemente a lo acostumbrado, desconectela y consulte la seccion “Troubleshooting” (Reparador) de este manual. Si no es posible corregir el problema, llame a su servicio autorizado para que le examinen la maquina.
- **PELIGRO DE MACHUQUE** - Mantenga manos y dedos fuera de la agarradera mientras sujeta el papel. Use el calibrador trasero y su rueda de mano para empujar el papel cortado. **NO PONGA SUS MANOS BAJOLA CUCHILLA O AREA DE LA AGARRADERA.**
- **NO OPERE SIN LAS GUARDAS PROTECTORAS!**

¡ OJO ! PRECAUCION - Como proceder para desconectar la corriente electrica.

Para maxima seguridad durante ajustes y reparaciones de su maquina, verifique bien que el interruptor principal de control de corriente al cual la maquina esta conectada, este desconectado. El interruptor deba ser puesto en la posicion “OFF” (desconectado) y se debe poner un candado en la anilla. La llave del candado debe ser guardada por la persona que estara efectuando los trabajos de servicio o de reparacion en la guillotina.

Desconecte la corriente electrica antes de proceder a hacer cualquier ajuste o reparacion o de efectuar el engrase en cualquier maquina.

MyBinding.com When Image Matters.

3.0 Maintenance Guide

⚠ NOTICE ⚠

The instructions on the following pages are for the use of trained service personnel only!

Attempting to perform repair and replacement procedures without proper training may cause machine damage or operator injury!

PARTS CUSTOMERS: The Challenge Machinery Company provides parts with the express understanding that they are to replace parts found missing or no longer serviceable on equipment designed and/or manufactured by Challenge. The Challenge Machinery Company assumes no liability for any modification or alteration to any Challenge products, and any such modification or alteration to any Challenge product is not authorized by The Challenge Machinery Company. Any modification or alteration of any Challenge product will void any remaining warranty.

MyBinding.com When Image Matters.

3.1 Routine Maintenance (All Models)

⚠ CAUTION DISCONNECT POWER before making any adjustments or lubricating. See page 6, SAFETY PRECAUTIONS, for Power Lockout Procedure.

A clean, lubricated machine will run longer, smoother, cut more accurately, with less downtime and fewer costly repairs. Schedule lubrication both early in the day and early in the week. This allows the lubricants to work into the machine. Lubrication at the end of the day or week allows the lubricants to run off without as much benefit to the machine. The following guidelines will help you set up a regular maintenance schedule:

3.1.1 Weekly

- **Clean —** Clean off old, dirty excess grease. Remove the top cover and clean accumulated dust off knife bar and gib areas. Built-up dust can increase wear to components.
- **Hardware —** Remove top cover and bottom cover to check all nuts and bolts for tightness. Loose hardware is the cause of most component wear and in the electrical area could cause short circuits and/or shock.
- **Lubrication —** See section 3.3 page 11

3.1.2 Monthly

- **Backgauge Squaring —** See section 3.5.1 page 13

3.1.3 Yearly

- **Knife Bar Gib Adjustment —** See section 3.5.3 page 16
- **Backgauge Accuracy Adjustment —** See Section 3.5.2 page 14

3.2 Cleaning (All Models)

Before cleaning inside machine, turn power off and disconnect power cord.

3.2.1 Table

- The front table should be wiped down periodically. Use a non-abrasive cleaner along with a protective wax.
- The rear table cover and front shield may be cleaned with glass cleaner or a mild water based detergent. Some petroleum-based solvents may damage the Plexiglas.

3.2.2 Display Panel

- The display panel should be cleaned with a mild water based detergent applied to a damp cloth or paper towel. Do not use petroleum-based solvents as they **will** damage the display.

MyBinding.com When Image Matters.

3.2.3 Machine Exterior

- The machine's exterior should be cleaned with a non-abrasive water based detergent applied to a damp cloth.
- Always be careful when cleaning around safety warning labels. Use limited amounts of cleaners in those areas.

3.3 Lubrication (All Models)

3.3.1 Clamp

Send the clamp down, then turn off the power. Disconnect the power cord, remove and disconnect the display panel, and remove the top cover. Wipe off any old or excess grease. Use any brand-name type of grease and apply to the areas shown in Figure 2. It may be helpful to use a small brush to apply grease.

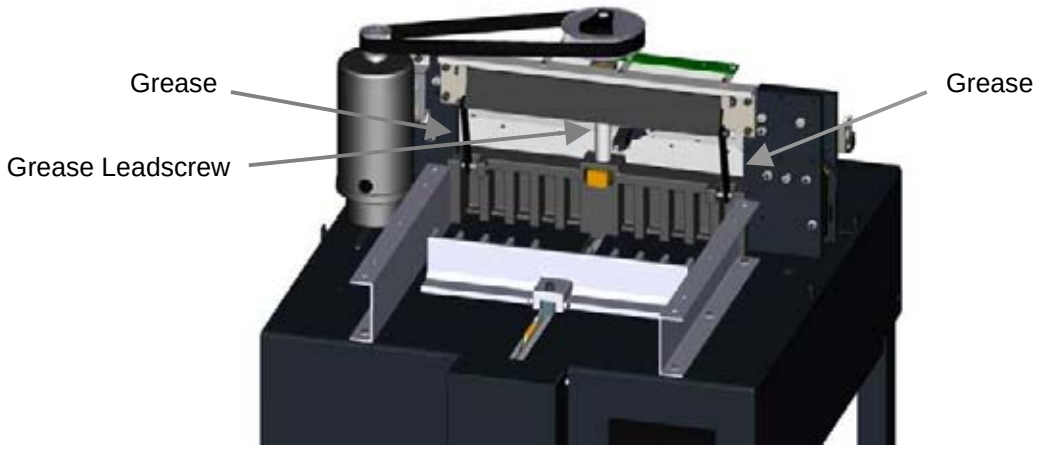


Figure 2

3.3.2 Backgauge Lead Screw and Guide Shaft

Remove the rear bottom cover. Use any brand-name type of grease or light oil to lubricate backgauge lead screw and guide shaft (Figure 3, page 12). It may be helpful to use a small brush to apply grease. Note: the lead screw may be lubricated with grease or oil. Oil has a tendency to run off and must be lubricated more frequently; grease tends to collect paper dust and must be cleaned off periodically.

MyBinding.com When Image Matters.

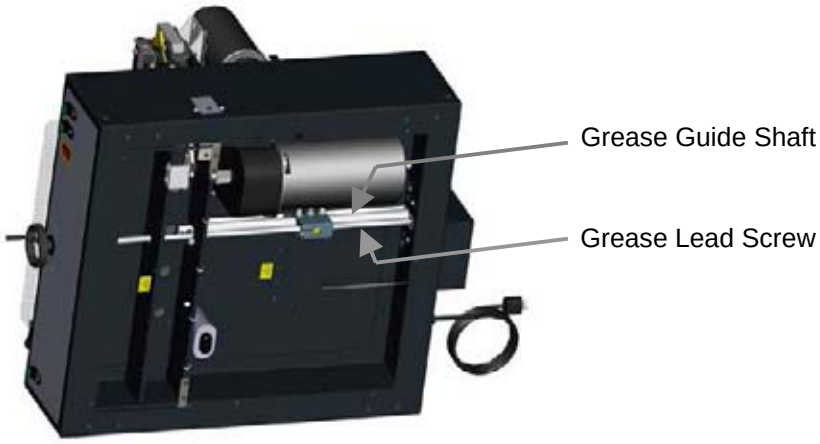


Figure 3

3.4 Accessing the Electrical Panel (All Models)

⚠ CAUTION SHOCK HAZARD, CAN CAUSE SEVERE INJURY OR DEATH. DISCONNECT POWER before accessing the electrical panel. See page 6, SAFETY PRECAUTIONS, for Power Lockout Procedure.

To access the electrical panel for electrical troubleshooting, electrical adjustments, or for access to the inside of the machine, open the panel as shown in Figure 4 below. First disconnect power cord. Then remove the front two panel screws. The panel will pivot down. The panel can now slide forward by tilting the panel up slightly and then pulling forward.

1. Remove front (2) screws. 2. Tilt panel down. 3. Slide panel forward.

Figure 4

MyBinding.com When Image Matters.

3.5 Adjustments

⚠ CAUTION Some of the following tests require the machine to be operational for checking and adjusting. Be very careful that tools and other people are clear of moving parts and that the cutter is not accidentally operated while adjustments are being made. Whenever possible, disconnect the power and lock it out (see SAFETY PRECAUTIONS, page 6) unless the directions specifically require the machine to be powered.

3.5.1 Squaring the Backgauge (All Models)

To test if the backgauge is square, place a small lift of paper against the left side of the backgauge (but not against the side guide) and make a cut. Now, leave the backgauge in the same position, flip the lift over and push it against the right side of the backgauge (but not against the side guide). Make another cut to see if any of the paper will trim off (Figure 5). Run two checks, one starting on the left and moving to the right; the other, moving from the right to the left. If paper is trimmed in either sequence, the backgauge is out of square.

Figure 5

To square the backgauge:

1. Make sure the backgauge gibs are set properly (see section 3.5.6 , page 18).
2. Remove the rear Plexiglas table cover.
3. Loosen the jam nuts on the backgauge adjusting screws (Figure 6, page 14).

MyBinding.com When Image Matters.

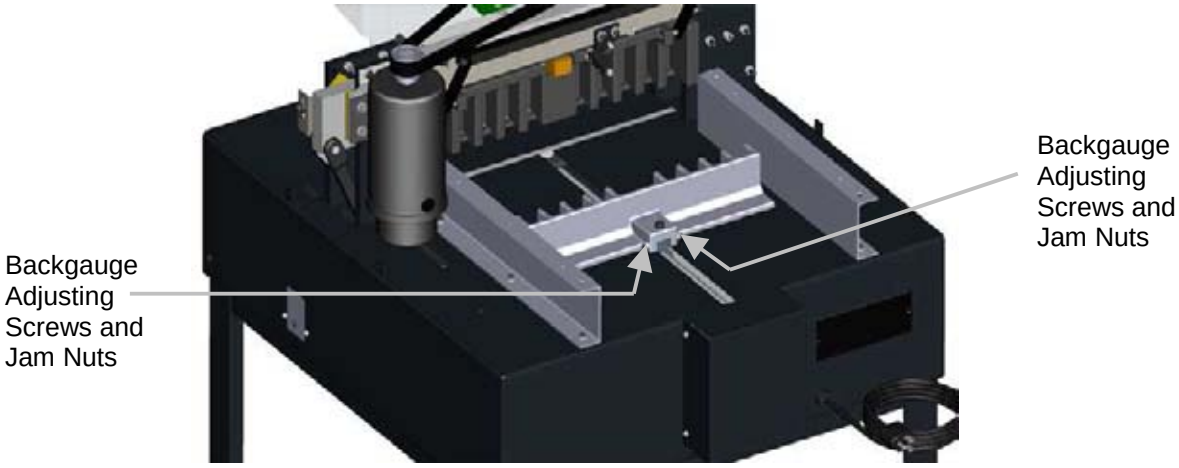


Figure 6

4. Back off the adjusting screw on the side that the trim occurred, then tighten the other screw.

5. Tighten jam nuts and make another test. Continue to adjust and test until no trim occurs when testing either sequence.

6. Replace the rear Plexiglas table cover.

Note: Once the backgauge is square, check the backgauge accuracy (see Section 3.5.2 below) to make sure it is accurate.

3.5.2 Backgauge Accuracy Adjustment (Models: SA and A)

If the backgauge position readout does not match the actual measurement between the knife and the backgauge, the accuracy can be adjusted. The accuracy can be checked by the following procedure:

NOTE: The backgauge should be squared before attempting to adjust the accuracy. (See Section 3.5.1 , page 13).

1. Place a 1/4 to 1/2” lift of 8-1/2 x 11” paper against the center of the backgauge.

2. Using the backgauge position readout, bring the lift up to the 10.00” position and make a cut. Then move the backgauge up to 5.00” and make another cut.

3. Take a sheet from the center of each lift and compare them to each other. The cutter will always space accurately between cuts (in this case the 10” and 5” cuts) whether the overall accuracy is correct of not (Figure 7, page 15). The front stack will be a true 5”, but the paper left against the backgauge will not be if the backgauge position is inaccurate.

MyBinding.com When Image Matters.

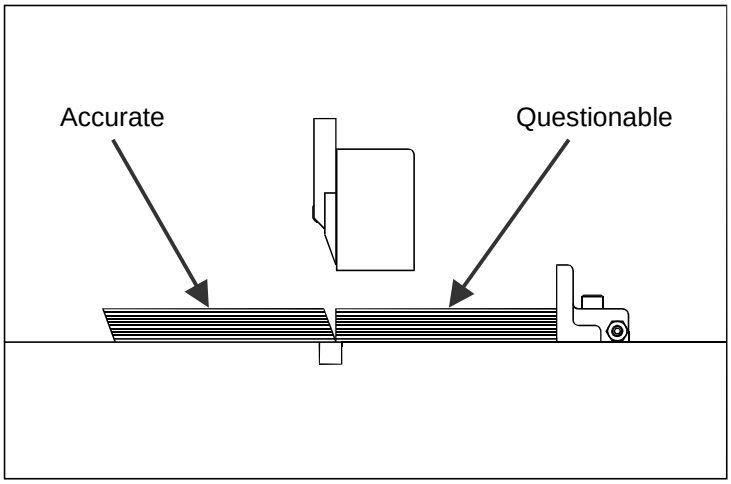


Figure 7

4. The backgauge accuracy can be corrected by adjusting the preset screw attached to the bottom of the backgauge nut assembly (Figure 8).

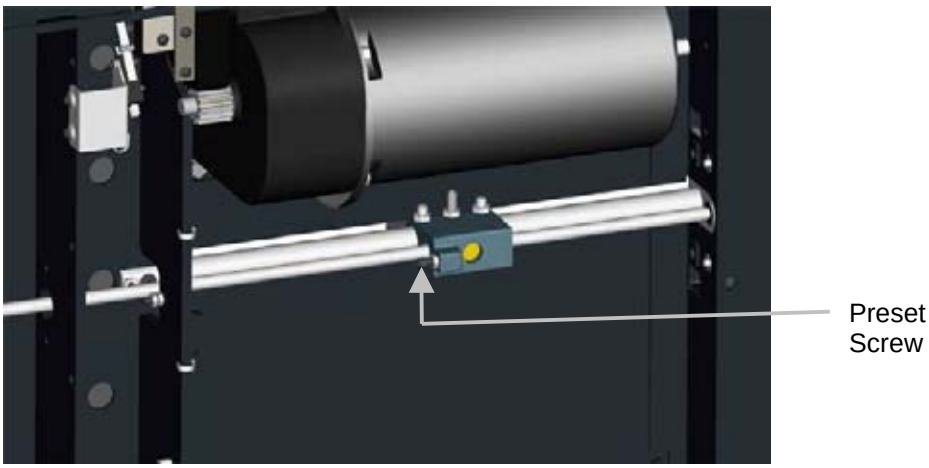


Figure 8

Turn off power and disconnect the power cord. Remove the rear bottom cover. Place a 3/16" Allen wrench in the preset screw and hold in position while loosening the jam nut. Now adjust the screw as follows:

- If rear pile is short (less than 5"), turn screw out (counterclockwise).
- If rear pile is long (more than 5"), turn screw in (clockwise).

1/4 turn = .012" backgauge adjustment
1/3 turn = .016 (1/64")
1/2 turn = .024"
2/3 turn = .032" (1/32")
1 turn = .048"

5. Replace bottom cover and turn on power. Note: If power was not off, reset power now or reading may be false. Bring the backgauge to the front to reset the display and make another test. Repeat adjustment procedure if necessary.

MyBinding.com When Image Matters.

3.5.3 Backgauge Accuracy Adjustment (Models: AEP)

Refer to the Spartan 185 AEP Operator's Manual.

3.5.4 Knife Bar Gib Adjustments (All Models)

1. Send the knife to the "down" position by making a cut and when the knife reaches the table, continue to hold the left cut button while releasing the right cut button and switching off the power. Then disconnect power cord.

2. Remove and disconnect the display panel, then remove the top cover.

3. Loosen the gib screw jam nuts on all gib screws EXCEPT THE TOP SCREW on each side (Figure 9).

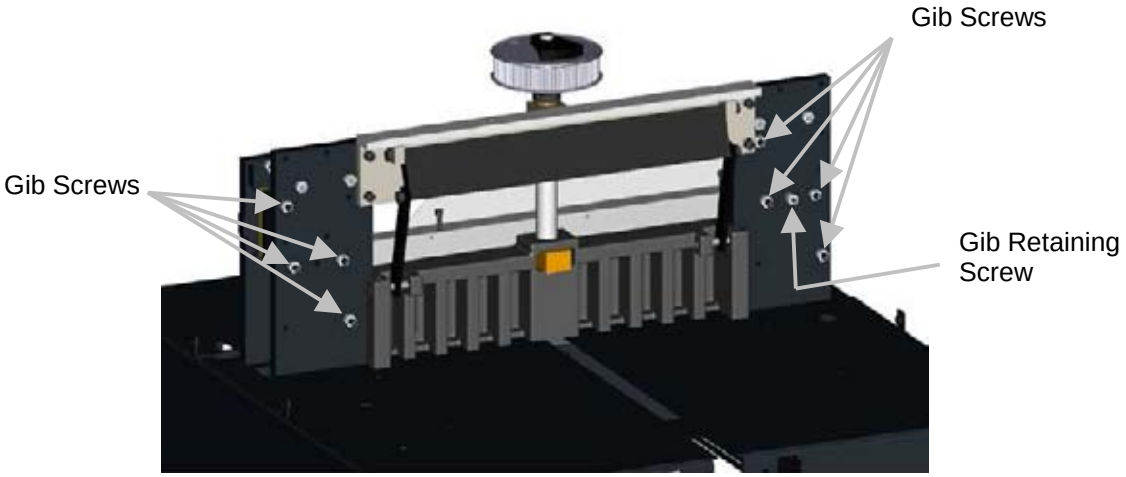


Figure 9

4. Tighten all gib screws EXCEPT THE TOP SCREW on each side (these should be done when the knife is up). Tighten so that screws are just snug then add a 1/8 turn. Hold screws in position with tool then tighten jam nuts.

5. Replace top cover and display panel, plug in power cord, and turn power on. Knife and clamp will return to "up" position.

6. Disconnect power cord, remove display and top cover, and repeat gib screw adjustment procedure for the TOP GIB SCREW on each side.

7. Replace top cover and display panel.

3.5.5 Knife Leveling Adjustment (All Models)

If knife cuts through one side of paper and not the other, the knife level may need adjustment. First check to make sure the knife is installed in the correct position by looking through the viewing holes in the knife bar (Figure 10, page 17). If the knife is not all the way up on both sides, loosen the knife screws and use knife lifter assembly to raise knife up tight. Then tighten screws and recheck by cutting through paper.

MyBinding.com When Image Matters.

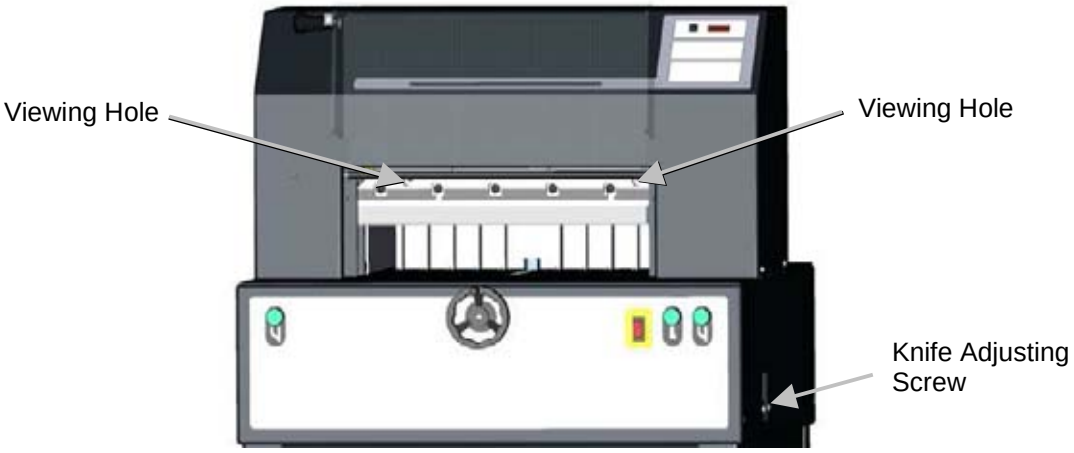


Figure 10

If knife is cutting deeper on one side than the other, use the following procedure to adjust:

1. Flip the cut stick to a new position and raise the knife depth by several turns of the knife adjusting screw (Figure 10).

2. Slightly loosen the left-most knife screw only (but keep somewhat snug).

3. Place a few sheets of paper over the entire cut stick, and make a cut. Adjust the knife depth and continue to make cuts until the knife begins to cut through the bottom sheet of paper on either side.

4. Once the knife begins to cut through the bottom sheet on one side, leave the knife down by holding in the left cut button while releasing the right cut button and turning off power.

5. Disconnect power cord, remove and disconnect the display panel, then remove the top cover.

6. Slightly loosen the remaining (5) knife screws, keeping them somewhat snug.

7. Adjust the knife leveling screw (Figure 11) that corresponds with the side of the knife which does not cut all the way through. Tug on the paper while adjusting and stop when the bottom sheet is cut all the way through.

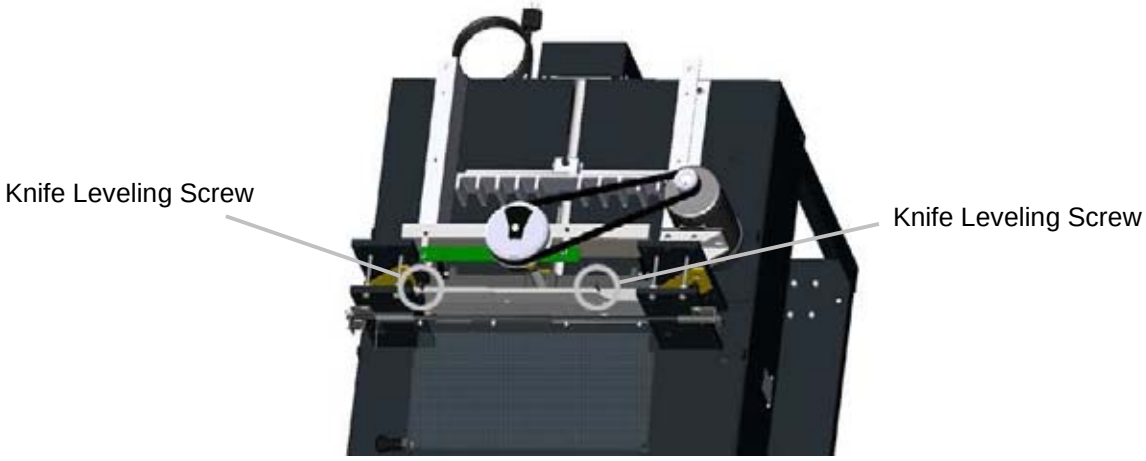


Figure 11

MyBinding.com When Image Matters.

8. Tighten the (5) accessible knife screws, replace top cover and display panel, restore power to machine, raise knife up by turning on power switch, and tighten (1) remaining knife screw.

3.5.6 Backgauge Gib Adjustments (All Models)

If the backgauge does not stay square or moves up and down or back and forth when jogging paper against it, the backgauge gib screws may be loose or worn.

To Adjust:

1. Turn off the power and disconnect the power cord.

2. Remove rear bottom cover.

3. Loosen the two outside gib screw jam nuts (Figure 12).

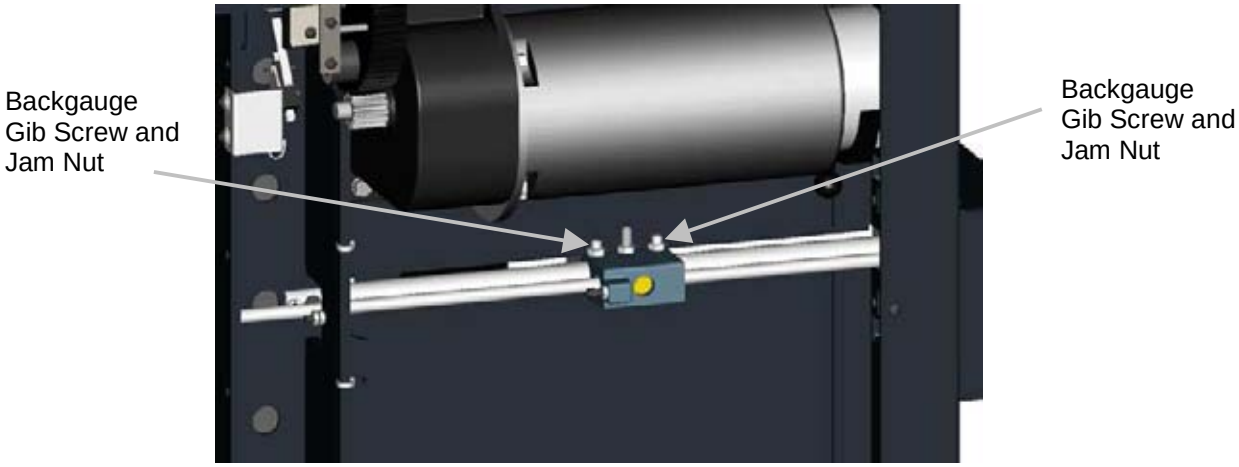


Figure 12

4. Tighten the two nylon set screws until they just touch the guide. Do not over-tighten or they could cause the backgauge to bind. Lock in position with jam nuts. The center screw is a spring loaded plunger and should not be adjusted.

5. Run the backgauge back and forth the length of the table and check for any binding. Readjust if necessary. Replace the bottom cover.

3.5.7 Lead Screw Collars (Models: SA and A)

Any play in the backgauge lead screw may cause inaccuracies in backgauge position display. Excessive play can be eliminated by adjusting the lead screw collars as follows:

1. Turn off the power and disconnect the power cord.

2. Open electrical panel on bottom of machine and slide forward (See Section 3.4 Accessing the Electrical Panel, page 12).

3. Turn front hand wheel counterclockwise until backgauge is tight against back of machine and rear collar is tight against the mounting block.

4. Loosen set screw in FRONT collar only (Figure 13, page 19), slide and hold collar tight against mounting block, then tighten set screw.

MyBinding.com When Image Matters.

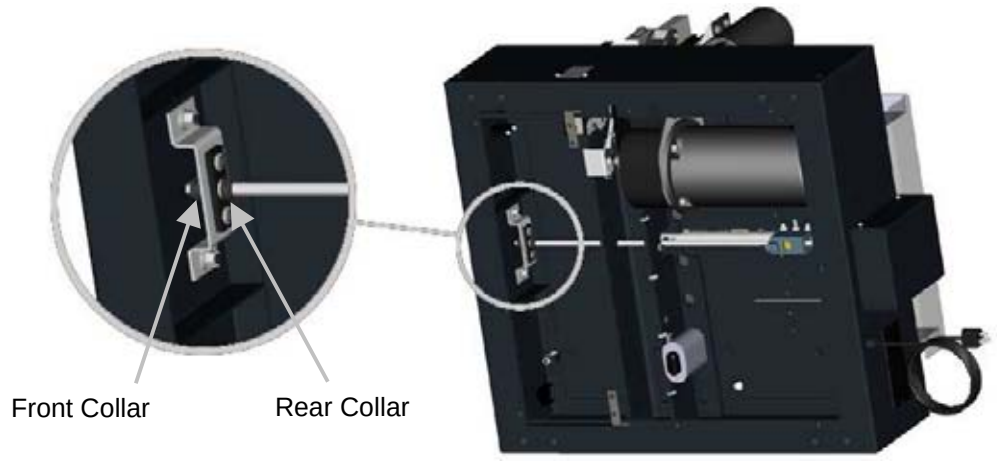


Figure 13

5. Turn front hand wheel back and forth to make sure it turns freely with no excess play.
6. Replace electrical panel cover.

3.5.8 Line Light Adjustment (All Models)

The line light can be adjusted if necessary as follows:

1. Remove and disconnect the display panel, then remove the top cover.
2. Loosen the three line light mounting screws (Figure 14).

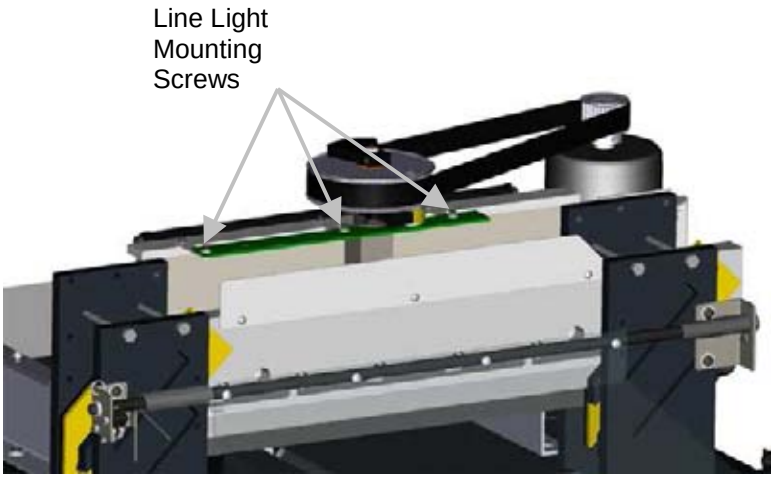


Figure 14

3. Place a white sheet of paper or papers over the entire cut stick and turn the power on to activate the line light. Note: 24V is being supplied to line light board while power is on.
4. Slide the line light assembly forward or backward to get a single, crisp line.
5. Tighten the screws and turn power off. Replace top cover and display panel.

MyBinding.com When Image Matters.

3.5.9 Front Guard Switch Adjustment (All Models)

The front guard interlock switches must be adjusted correctly in order for machine to function properly and safely.

To adjust:

1. Turn off the power and disconnect the power cord.
2. Remove and disconnect the display panel, then remove the top cover.
3. Loosen (2) screws that mount the front guard switches (Figure 15) and slide the switches forward or backward until the actuator lines up with the flat on the hinge rod (Figure 15). Leave a very slight gap (about the thickness of a strip of paper) between the actuator and flat.

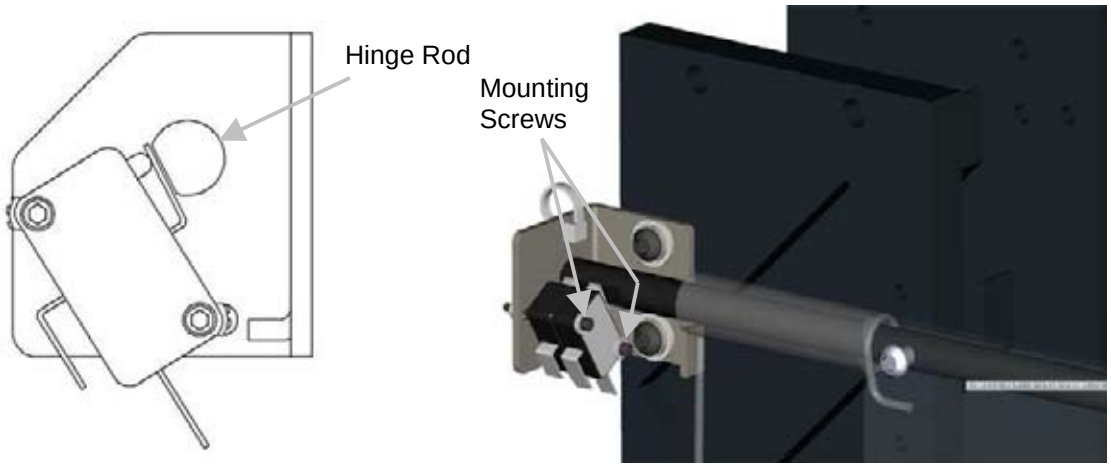


Figure 15

4. Tighten screws, replace top cover and display panel.
5. Perform test found on the back page of the Operator's Manual to make sure machine works properly.

3.5.10 Knife/Clamp Sequence Adjustment (Models: A and AEP)

During a normal cut cycle, the clamp moves down until it reaches paper or the table. Once this happens, the knife begins to come down, and the rest of the cycle is completed. However, if the sequence adjustment screw is not set correctly, the cut sequence will not function properly. Use the following chart to determine if adjustments need to be made.

Symptom	Solution
When the cut buttons are pressed, the clamp starts to move but stops before coming down, and then the knife comes down.	Rotate the Sequence Adjustment Screw CLOCKWISE.
When the cut buttons are pressed, the clamp comes down all the way, but the clamp motor does not shut off and the knife does not come down.	Rotate the Sequence Adjustment Screw COUNTER-CLOCKWISE.

MyBinding.com When Image Matters.

Make necessary adjustments by turning the Sequence Adjustment Screw (Figure 16) located on the electrical panel (See Section 3.4 Accessing the Electrical Panel, page 12).

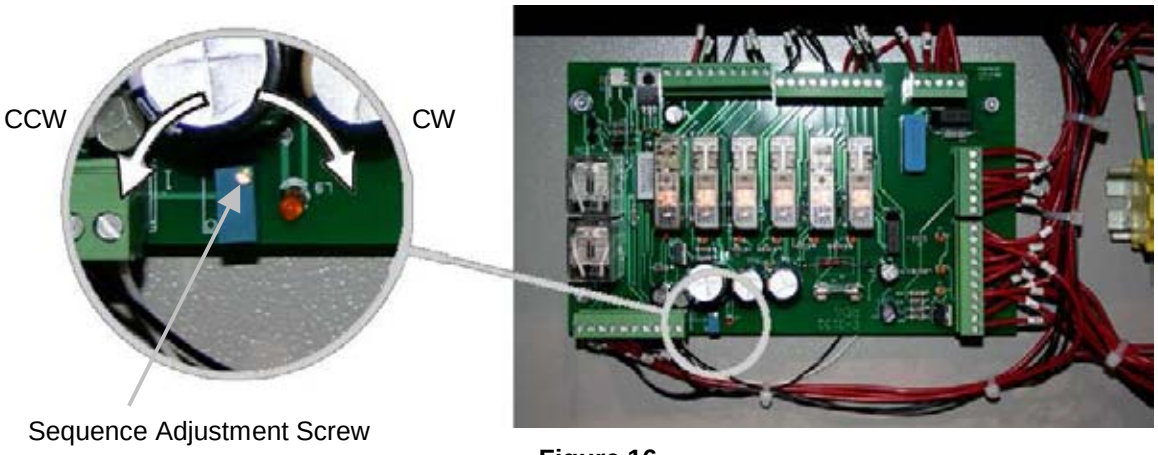


Figure 16

3.5.11 Clamp-Up Limit Switch Adjustment (Models: A and AEP)

The clamp-up limit switch determines where the clamp stops in the “up” position. If the clamp stops too high or too low, adjust as follows:

1. Turn off the power and disconnect the power cord.

   ⚠ CAUTION Attempting to adjust this limit switch or to move the clamp away from the limit switch with out disconnecting power could cause the clamp motor to inadvertently start up and cause severe injury. It is extremely important to disconnect power while making this adjustment.

2. Remove and disconnect the display panel, then remove the top cover.

3. MAKE SURE POWER IS DISCONNECTED (see caution above) and manually move the clamp down by first disengaging the motor brake (Figure 17), and then rotating the drive belt or pulleys by hand.

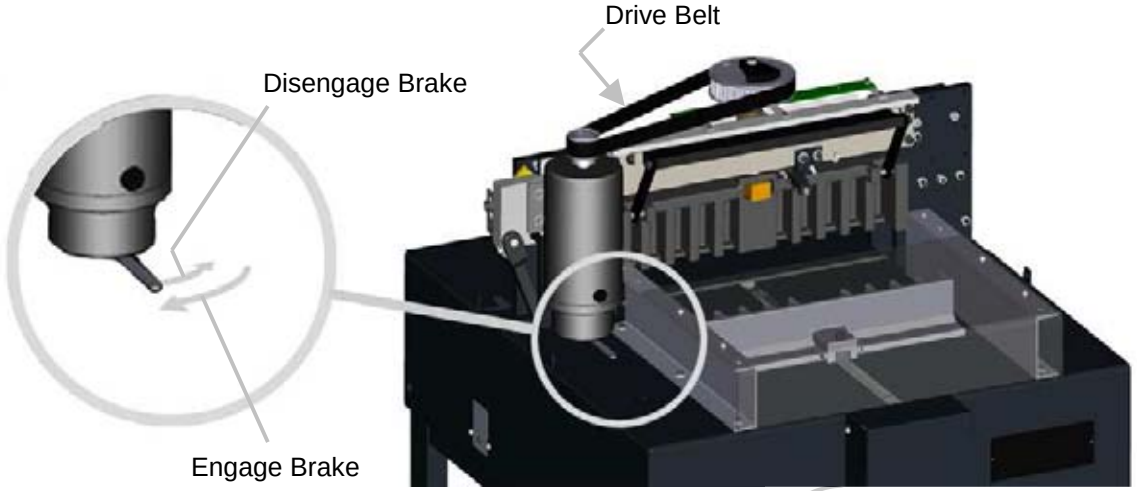


Figure 17

MyBinding.com When Image Matters.

4. Loosen bracket mounting screws (Figure 18), and slide bracket up or down, depending on the type of adjustment needed. Lowering the bracket will lower the “up” position of the clamp, raising the bracket will raise the “up” position of the clamp. Then tighten screws, and also check to make sure the screws mounting the switch to the bracket are tight.

   Note: Applying temporary thread lock to bracket mounting screws will help prevent screws from coming loose during operation.

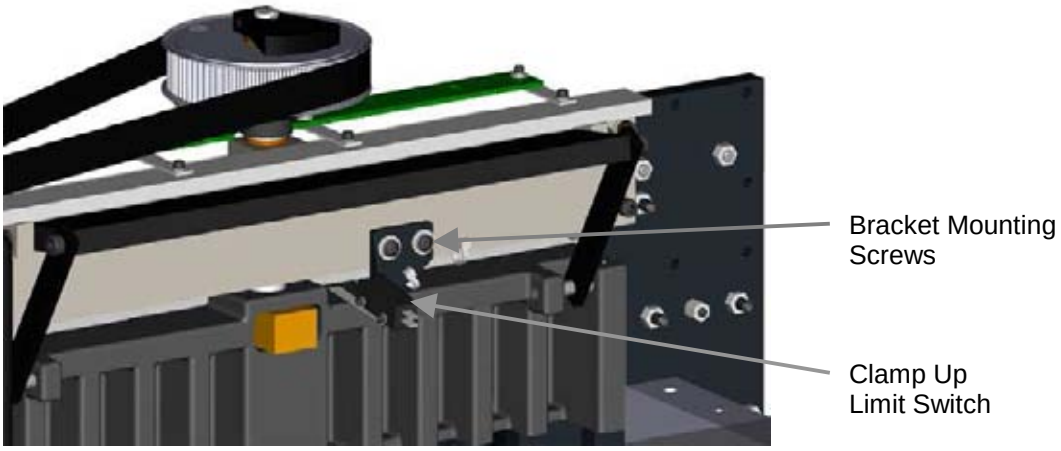


Figure 18

5. Engage motor brake (Figure 17, page 21). VERY IMPORTANT – do not skip this step. Damage to machine could result if the motor brake is not engaged prior to running.

6. Replace top cover and display panel. Turn on power and make a cut. Check position of clamp in “up” position – USE CAUTION, THE KNIFE EDGE IS VERY SHARP. The edge of a new knife should be above the bottom of the clamp when the knife and clamp are in the “up” positions. If the knife edge is below the clamp, repeat the adjustment procedure, moving the bracket slightly down to allow the clamp to stop below the edge of the knife. Or it may be necessary to adjust the knife-up limit switch (see Section 3.5.12 Knife-Up Limit Switch Adjustment, page 22). Also, the clamp should not be allowed to travel all the way to its upper stops, as this could cause damage to the clamp mechanism. This would also require the bracket to be adjusted down.

3.5.12 Knife-Up Limit Switch Adjustment (All Models)

If the knife-up limit switch becomes loose or needs adjustment, adjust as follows:

1. Turn off the power and disconnect the power cord.

2. Remove rear bottom cover.

3. If the knife pull-down gear is disengaged, engage it now. See Section 3.5.14 Re-engaging the Knife Pull-Down Gear, page 24.

4. Loosen bracket mounting screws (Figure 19), and slide bracket such that mounting screws become located in the center of the slots. Then tighten screws, and check to make sure screws mounting switch are tight also.

   Note: Applying temporary thread lock to bracket mounting screws will help prevent screws from coming loose during operation.

MyBinding.com When Image Matters.

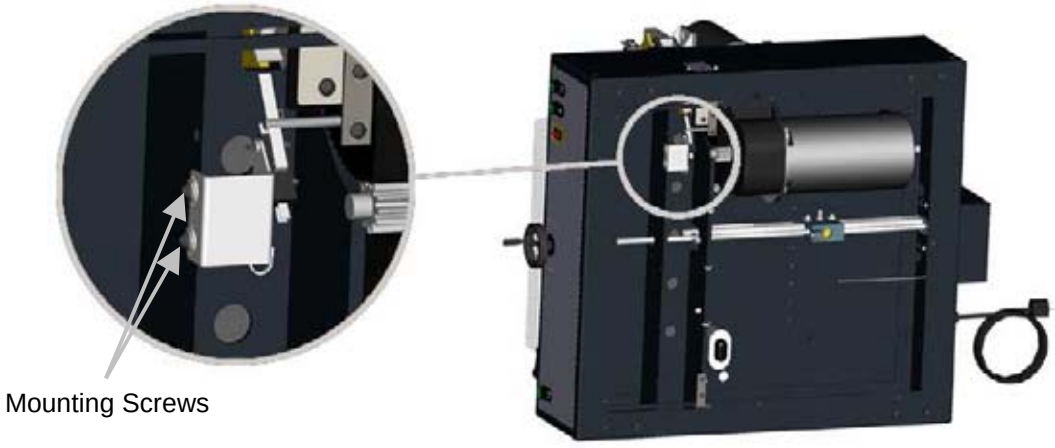


Figure 19

5. Replace bottom cover. Turn on power and make a cut. Check position of knife – USE CAUTION, THE KNIFE EDGE IS VERY SHARP. The edge of a new knife should be above the bottom of the clamp when the knife and clamp are in the “up” positions. If the knife edge is below the clamp, repeat the adjustment procedure, moving the bracket slightly in the direction that allows the knife to come up further. NOTE: The knife should not be able to come up so far that the gears become disengaged – or damage to the machine could result.

3.5.13 Knife-Down Limit Switch Adjustment (All Models)

The down limit switch is normally adjusted by the operator from the exterior of the machine. No internal adjustments can be made, but the switch can be checked to ensure that it is functioning properly.

To check switch assembly:

1. Turn off the power and disconnect the power cord.
2. Remove rear bottom cover.
3. Check all bracket and switch hardware to make sure they are tight (Figure 20).

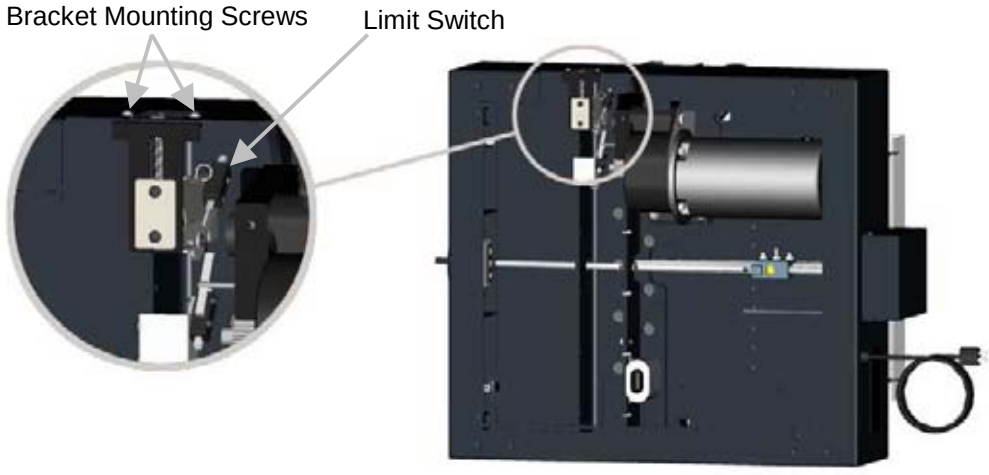


Figure 20

MyBinding.com When Image Matters.

4. Check to make sure the switch bracket slides freely on the mounting bracket.

5. Check condition of spring.

6. Replace bottom cover.

3.5.14 Re-engaging the Knife Pull-Down Gear (All Models)

If the knife pull-down gear becomes disengaged, the following procedure must be followed in order to properly re-engage it:

1. Turn off the power and disconnect the power cord.

2. Remove rear bottom cover. It may be helpful to lower electrical panel and slide forward (see Section 3.4 Accessing the Electrical Panel, page 12).

3. Disengage the motor brake by holding the brake lever either up or down (Figure 21).

Figure 21

4. With the brake disengaged, move the gears in the directions shown in Figure 21. The smaller gear has a small stub on it which can be used to turn the gear using a pair of pliers or locking pliers if necessary. If the larger gear cannot be moved by hand, tap on it with a rubber hammer or carefully pry it with a long bar. Be very careful not to damage the gear teeth. Rotate the gears so that at least one whole tooth is engaged (Figure 22, page 25).

MyBinding.com When Image Matters.

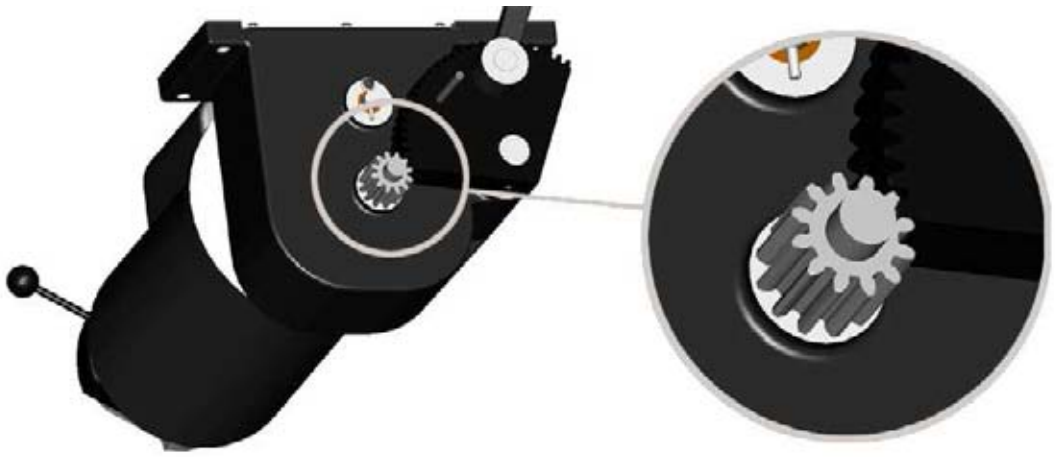


Figure 22

5. Release the brake lever to its normal position.

6. Check to make sure the up and down limit switches are positioned correctly to prevent gears from becoming disengaged again (See Section 3.5.12 page 22 and Section 3.5.13 page 23).

7. Replace bottom covers.

MyBinding.com
When Image Matters.

3.6 Troubleshooting

Problem	Possible Cause	Solution
1. The machine will not power up – no display, no line light, and machine will not cycle.	a) Power cord is disconnected. b) Main power switch/circuit breaker is off. c) Blown fuse on main circuit board. d) Disconnected wires inside machine. e) No power at electrical outlet.	a) Plug in cord. b) Turn power switch/circuit breaker on. c) Check fuse, replace if blown. d) Check for wires that are disconnected from main circuit board, power cord, etc. e) Check outlet. Repair or use another outlet.
2. Display and line light are on, but machine will not cycle.	a) Front guard is open. b) Front guard has not been opened and closed since previous cut cycle. c) Front guard switch needs adjustment. d) Knife limit switches need adjustment. e) Clamp motor breaker switch has tripped. f) Knife/clamp sequence needs adjustment g) Disconnected wires inside machine. h) Faulty cut button. i) Faulty main circuit board.	a) Close front guard. b) Open and close front guard. c) See Section 3.5.9 Front Guard Switch Adjustment, page 20. d) See 3.5.12 Knife-Up Limit Switch Adjustment, page 22 and 3.5.13 Knife-Down Limit Switch Adjustment, page 23. e) Reset breaker switch located on outside of electrical panel. f) See 3.5.10 Knife/Clamp Sequence Adjustment, page 20. g) Check for wires that are disconnected from main circuit board, cut buttons, etc. h) Check continuity of cut buttons at circuit board connection. Replace if necessary. i) Replace main circuit board.
3. Power is on, but backgauge display is blank.	a) Disconnected wires inside machine. b) Faulty display circuit board.	a) Check for wires that are disconnected from main circuit board, display circuit board, etc. b) Replace display circuit board.
4. Backgauge display shows: "----".	a) Backgauge has not been preset.	a) Preset Backgauge by bringing backgauge to front of machine (refer to Operator's Manual).
5. Power is on, but line light does not light up.	a) Disconnected wires inside machine. b) Faulty line light circuit board.	a) Check for wires that are disconnected from main circuit board, line light circuit board, etc. b) Replace line light circuit board.
6. Backgauge display is inaccurate.	a) Backgauge accuracy needs adjustment. b) Encoder malfunction. c) Faulty display circuit board.	a) See Section 3.5.2 Backgauge Accuracy Adjustment, page 14. b) Check connection between encoder and backgauge lead screw at rear of machine, or replace encoder. c) Replace display circuit board.

MyBinding.com When Image Matters.

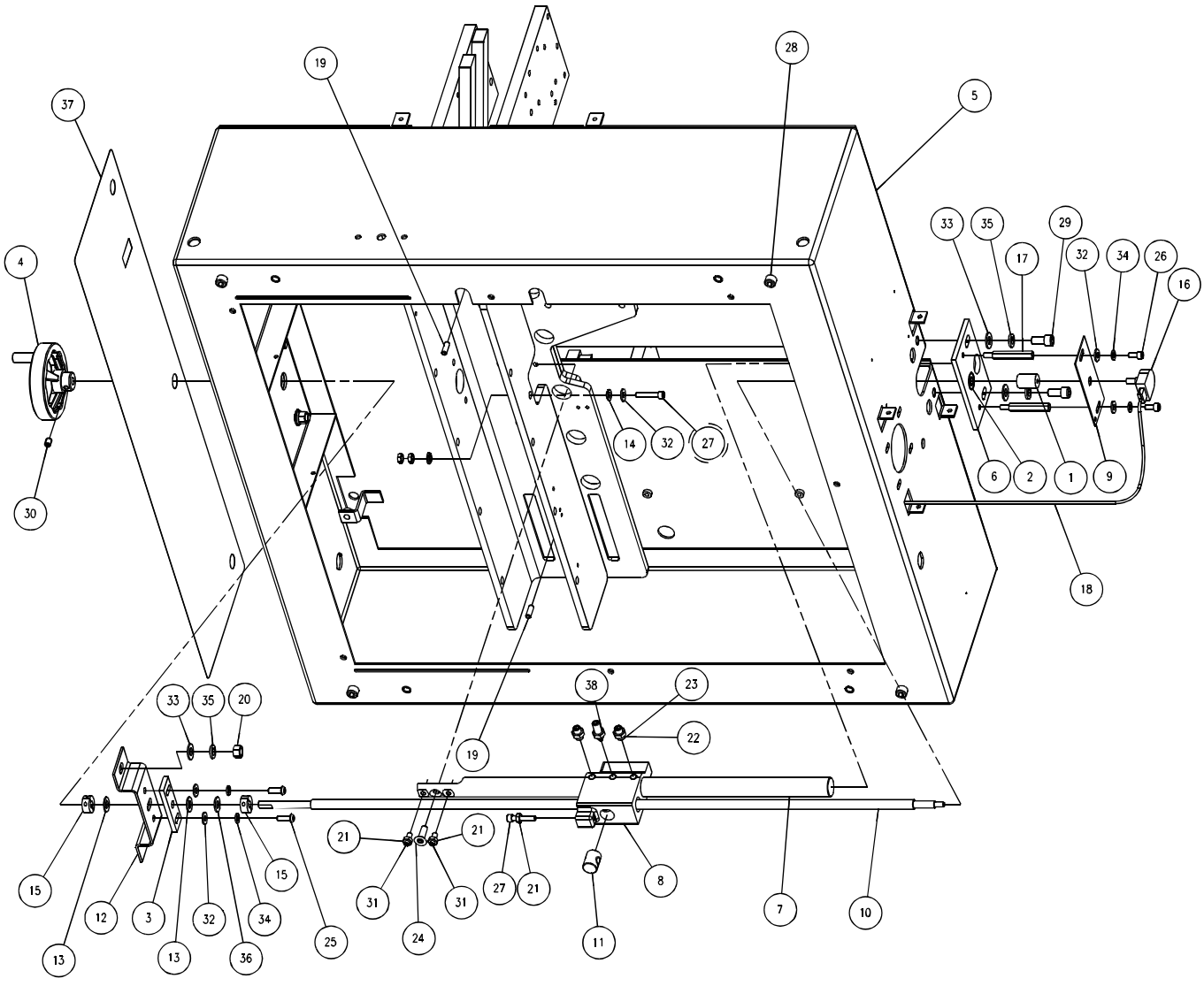
Problem	Possible Cause	Solution
7. Knife cuts deeper on one side than the other.	a) Knife is not seated all the way up in knife bar. b) Knife level is not set properly	a) Loosen knife screws and use knife lifter assembly to raise knife up tight. b) See Section 3.5.5 Knife Leveling Adjustment, page 16.
8. The machine strains through a cut.	a) Dull knife. b) Inadequate power source.	a) Change the knife with a new or sharpened one. See Operator's Manual for knife changing information and instructions. b) The electrical outlet may not have sufficient power if other equipment is operating on the same line. Check voltage and/or try another outlet on a different line.
9. Concave cutting – ends wide, center narrow.	a) Excessive moisture at edges of paper.	a) Keep paper in dry location.
10. Concave cutting – variation from top to bottom.	a) Knife dull or incorrectly ground.	a) Change the knife with a new or sharpened one. See Operator's Manual for knife changing information and instructions.
11. Motor runs at start up and does not stop running.	a) Knife up limit switch out of adjustment.	a) See 3.5.12 Knife Up Limit Switch Adjustment, page 22.
12. Knife or Clamp coasts after motor stops.	a) Motor brake is malfunctioning or worn out.	a) Replace motor brake. See Parts Lists in this manual for part number. Replacement instructions included with part.
13. During a cycle, the clamp starts to move but stops before coming down, and then the knife comes down. (SA/AEP)	a) Knife/Clamp out of sequence	a) See 3.5.10 Knife/Clamp Sequence Adjustment (Models: A and AEpage 20.
14. During a cycle, the clamp comes down all the way, but the clamp motor does not shut off and the knife does not come down. (SA/AEP)	a) Knife/Clamp out of sequence	a) See 3.5.10 Knife/Clamp Sequence Adjustment (Models: A and AEpage 20.

MyBinding.com When Image Matters.

4.0 Parts Lists

4.1 Main Asm. – Backgauge Drive (Models: SA, 120/230V, 50/60 Hz)

63000 Sheet 1



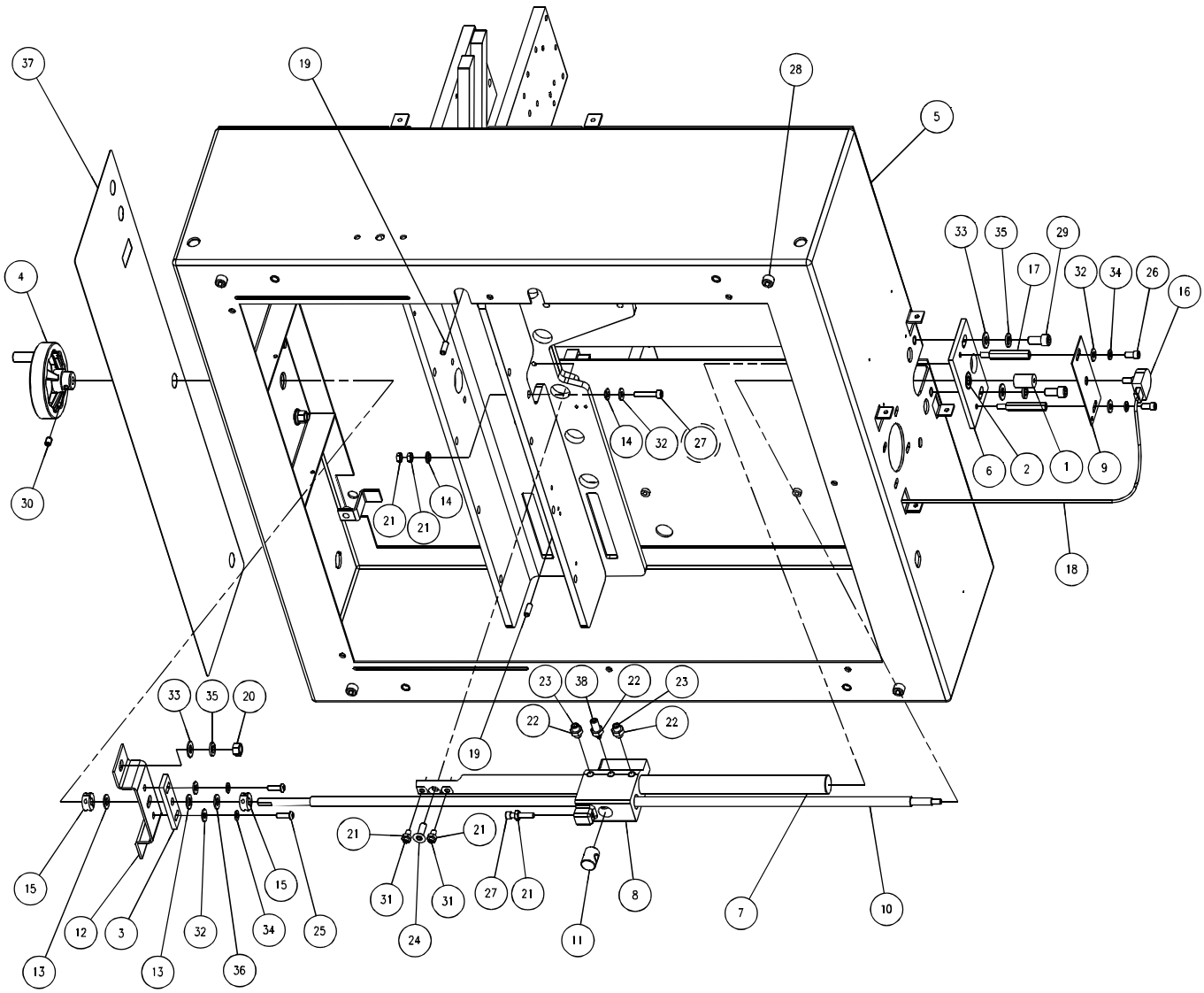
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	47053	COUPLING	1
2	56552	BALL BEARING- 3/8 X .875	1
3	60115	ADJUSTABLE PILLOW BLOCK	1
4	63047	HAND WHEEL - 4 INCH	1
5	63100	BASE WELDMENT	1
6	63201	GUIDE ROD BRACKET- FRONT	1
7	63202	GUIDE SHAFT	1
8	63203	BACKGAUGE CARRIER	1
9	63208	ENCODER PLATE	1
10	63215	LEADSCREW- MANUAL BACKGAUGE	1
11	63216	LEADSCREW NUT- MANUAL BACKGAUGE	1
12	63219	PILLOW BLOCK BRACKET	1
13	11288-5	NYLON WASHER	2
14	47214-2	SHOULDER WASHER	2
15	A-10081-4	SPLIT COLLAR	2
16	E-2467	ENCODER	1
17	E-1152-104	STANDOFF	2
18	EE-2534-3	ENCODER CABLE	1
19	H-21S-250-0750	ROLL PIN - 1/4 X 3/4	2
20	H-6417-6	NUT - 3/8-16 HEX	2
21	H-6424-4	NUT - 1/4-20 HEX JAM	5
22	H-6424-6	NUT - 3/8-16 HEX JAM	3
23	H-6890-606	SCREW - 3/8-16 X 3/4 NYLON SOC SET	2
24	H-6909-508	SCREW - 5/16-18 X 1" FLAT HEAD CAP	1
25	H-6910-406	SCREW - 1/4-20 X 3/4 BUTTON HEAD CAP	2
26	H-6918-404	SCREW - 1/4-20 X 1/2 SOCKET HEAD CAP	2
27	H-6918-410	SCREW - 1/4-20 X 1-1/4 SOCKET HEAD CAP	2
28	H-6918-604	SCREW - 3/8-16 X 1/2 SOCKET HEAD CAP	4
29	H-6918-606	SCREW - 3/8-16 X 3/4 SOCKET HEAD CAP	2
30	H-6938-406	SCREW - 1/4-20 X 3/8 CUP SOC SET	1
31	H-6940-412	SCREW - 1/4-20 X 3/4 FLAT SOC SET	2
32	H-7321-4	WASHER - 1/4 SAE PLAIN	5
33	H-7321-6	WASHER - 3/8 SAE PLAIN	4
34	H-7327-8	WASHER - 1/4 MEDIUM LOCK	4
35	H-7327-12	WASHER - 3/8 MEDIUM LOCK	4
36	S-1681-3	WASHER- WAVE SPRING	1
37	S-1781-135	FRONT LABEL - 185 SA	1
38	S-2021-2	SPRING PLUNGER	1

MyBinding.com
When Image Matters.

4.2 Main Asm. – Backgauge Drive (Models: A, 120/230V, 50/60 Hz)

63000 Sheet 1



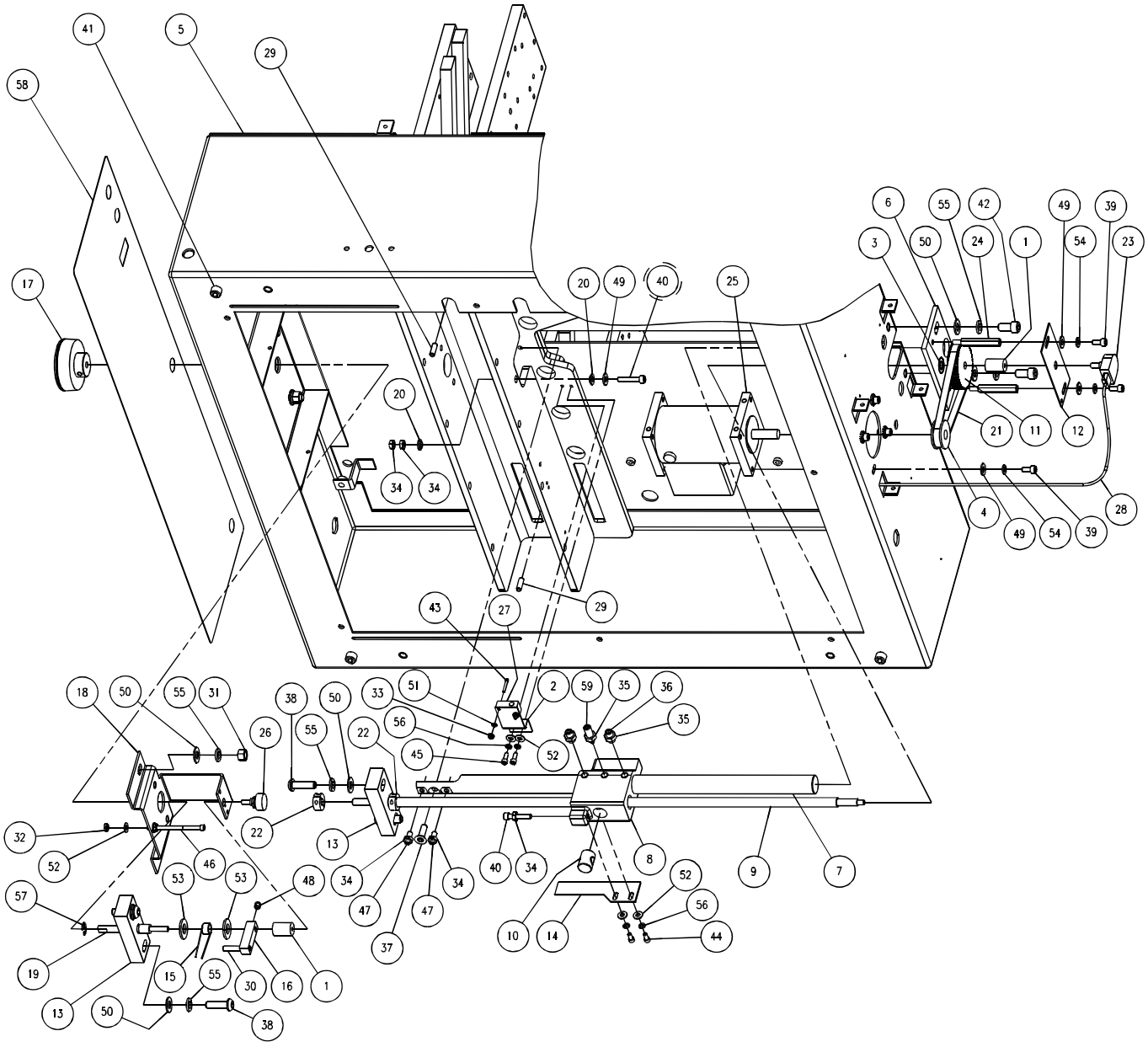
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	47053	COUPLING	1
2	56552	BALL BEARING- 3/8 X .875	1
3	60115	ADJUSTABLE PILLOW BLOCK	1
4	63047	HAND WHEEL - 4 INCH	1
5	63100	BASE WELDMENT	1
6	63201	GUIDE ROD BRACKET- FRONT	1
7	63202	GUIDE SHAFT	1
8	63203	BACKGAUGE CARRIER	1
9	63208	ENCODER PLATE	1
10	63215	LEADSCREW- MANUAL BACKGAUGE	1
11	63216	LEADSCREW NUT- MANUAL BACKGAUGE	1
12	63219	PILLOW BLOCK BRACKET	1
13	11288-5	NYLON WASHER	2
14	47214-2	SHOULDER WASHER	2
15	A-10081-4	SPLIT COLLAR	2
16	E-2467	ENCODER	1
17	E-1152-104	STANDOFF	2
18	EE-2534-3	ENCODER CABLE	1
19	H-21S-250-0750	ROLL PIN - 1/4 X 3/4	2
20	H-6417-6	NUT - 3/8-16 HEX	2
21	H-6424-4	NUT - 1/4-20 HEX JAM	5
22	H-6424-6	NUT - 3/8-16 HEX JAM	3
23	H-6890-606	SCREW - 3/8-16 X 3/4 NYLON SOC SET	2
24	H-6909-508	SCREW - 5/16-18 X 1" FLAT HEAD CAP	1
25	H-6910-406	SCREW - 1/4-20 X 3/4 BUTTON HEAD CAP	2
26	H-6918-404	SCREW - 1/4-20 X 1/2 SOCKET HEAD CAP	2
27	H-6918-410	SCREW - 1/4-20 X 1-1/4 SOCKET HEAD CAP	2
28	H-6918-604	SCREW - 3/8-16 X 1/2 SOCKET HEAD CAP	4
29	H-6918-606	SCREW - 3/8-16 X 3/4 SOCKET HEAD CAP	2
30	H-6938-406	SCREW - 1/4-20 X 3/8 CUP SOC SET	1
31	H-6940-412	SCREW - 1/4-20 X 3/4 FLAT SOC SET	2
32	H-7321-4	WASHER - 1/4 SAE PLAIN	5
33	H-7321-6	WASHER - 3/8 SAE PLAIN	4
34	H-7327-8	WASHER - 1/4 MEDIUM LOCK	4
35	H-7327-12	WASHER - 3/8 MEDIUM LOCK	4
36	S-1681-3	WASHER- WAVE SPRING	1
37	S-1781-141	FRONT LABEL - 185A/AEP	1
38	S-2021-2	SPRING PLUNGER	1

MyBinding.com
When Image Matters.

4.3 Main Asm. – Backgauge Drive (Models: AEP, 120/230V, 50/60 Hz)

63000 Sheet 1



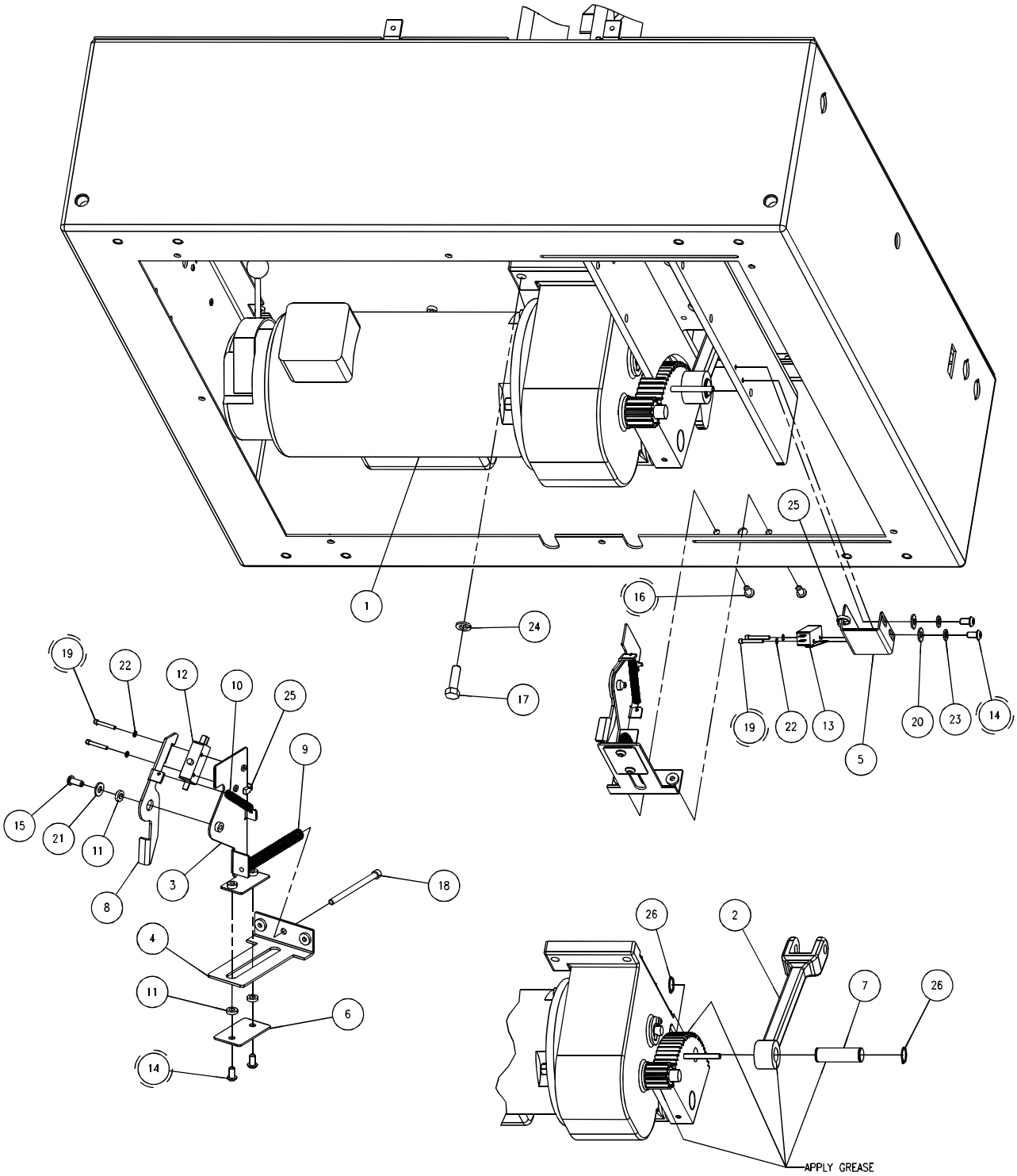
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	47053	COUPLING	2
2	56355	PROXIMITY BKT	1
3	56552	BALL BEARING- 3/8 X .875	1
4	56563	TIMING PULLEY- 20 GROOVE	1
5	63100	BASE WELDMENT	1
6	63201	GUIDE ROD BRACKET- FRONT	1
7	63202	GUIDE SHAFT	1
8	63203	BACKGAUGE CARRIER	1
9	63205	LEADSCREW - POWER BACKGAUGE	1
10	63206	LEADSCREW NUT - POWER BACKGAUGE	1
11	63207	TIMING PULLEY- 40 GROOVE, XL	1
12	63208	ENCODER PLATE	1
13	63211	FRONT PILLOW BLOCK ASSEMBLY	2
14	63212	PROXIMITY ACTUATOR- BACKGAUGE	1
15	63213	TORSION SPRING	1
16	63214	ACTUATOR	1
17	63218	KNOB	1
18	63220	PILLOW BLOCK BRACKET	1
19	63221	CONTROL KNOB SHAFT	1
20	47214-2	SHOULDER WASHER	2
21	A-11202	TIMING BELT- 160XL038	1
22	A-10081-4	SPLIT COLLAR	2
23	E-2467	ENCODER	1
24	E-1152-104	STANDOFF	2
25	E-1600-167	MOTOR- 1/15 HP, 90 VDC	1
26	E-1837-3	POTENTIOMETER	1
27	E-2204-1	PROXIMITY SWITCH	1
28	EE-2534-3	ENCODER CABLE	1
29	H-21S-250-0750	ROLL PIN - 1/4 X 3/4	2
30	H-21S-250-1500	ROLL PIN - 1/4 X 1-1/2	1
31	H-6417-6	NUT - 3/8-16 HEX	2
32	H-6417-N10	NUT - #10-24 HEX	2
33	H-6423-N4	NUT - #4-40 HEX KEP	2
34	H-6424-4	NUT - 1/4-20 HEX JAM	5
35	H-6424-6	NUT - 3/8-16 HEX JAM	3
36	H-6890-606	SCREW - 3/8-16 X 3/4 NYLON SOC SET	2
37	H-6909-508	SCREW - 5/16-18 X 1" FLAT HEAD CAP	1
38	H-6910-610	SCREW - 3/8-16 X 1-1/4 BUTTON HEAD CAP	4
39	H-6918-404	SCREW - 1/4-20 X 1/2 SOCKET HEAD CAP	6
40	H-6918-410	SCREW - 1/4-20 X 1-1/4 SOCKET HEAD CAP	2
41	H-6918-604	SCREW - 3/8-16 X 1/2 SOCKET HEAD CAP	4
42	H-6918-606	SCREW - 3/8-16 X 3/4 SOCKET HEAD CAP	2
43	H-6918-44006	SCREW - #4-40 X 3/4 SOCKET HEAD CAP	2
44	H-6918-102403	SCREW - #10-24 X 3/8 SOCKET HEAD CAP	2
45	H-6918-102404	SCREW - #10-24 X 1/2 SOCKET HEAD CAP	2
46	H-6918-102424	SCREW - #10-24 X 3 SOCKET HEAD CAP	1
47	H-6940-412	SCREW - 1/4-20 X 3/4 FLAT SOC SET	2
48	H-6940-102404	SCREW - #10-24 X 1/4 FLAT SOC SET	1
49	H-7321-4	WASHER - 1/4 SAE PLAIN	7
50	H-7321-6	WASHER - 3/8 SAE PLAIN	8
51	H-7321-N4	WASHER - #4 SAE PLAIN	2
52	H-7321-N10	WASHER - #10 SAE PLAIN	6
53	H-7322-8	WASHER - 1/2 POLISHED	2
54	H-7327-8	WASHER - 1/4 MEDIUM LOCK	6
55	H-7327-12	WASHER - 3/8 MEDIUM LOCK	8
56	H-7327-N10	WASHER - #10 MEDIUM LOCK	4
57	S-1193-37	E-RING - 3/8"	1
58	S-1781-141	FRONT LABEL - 185A/AEP	1
59	S-2021-2	SPRING PLUNGER	1

MyBinding.com
When Image Matters.

4.4 Main Asm. – Knife Drive (All Models)

63000 Sheet 2



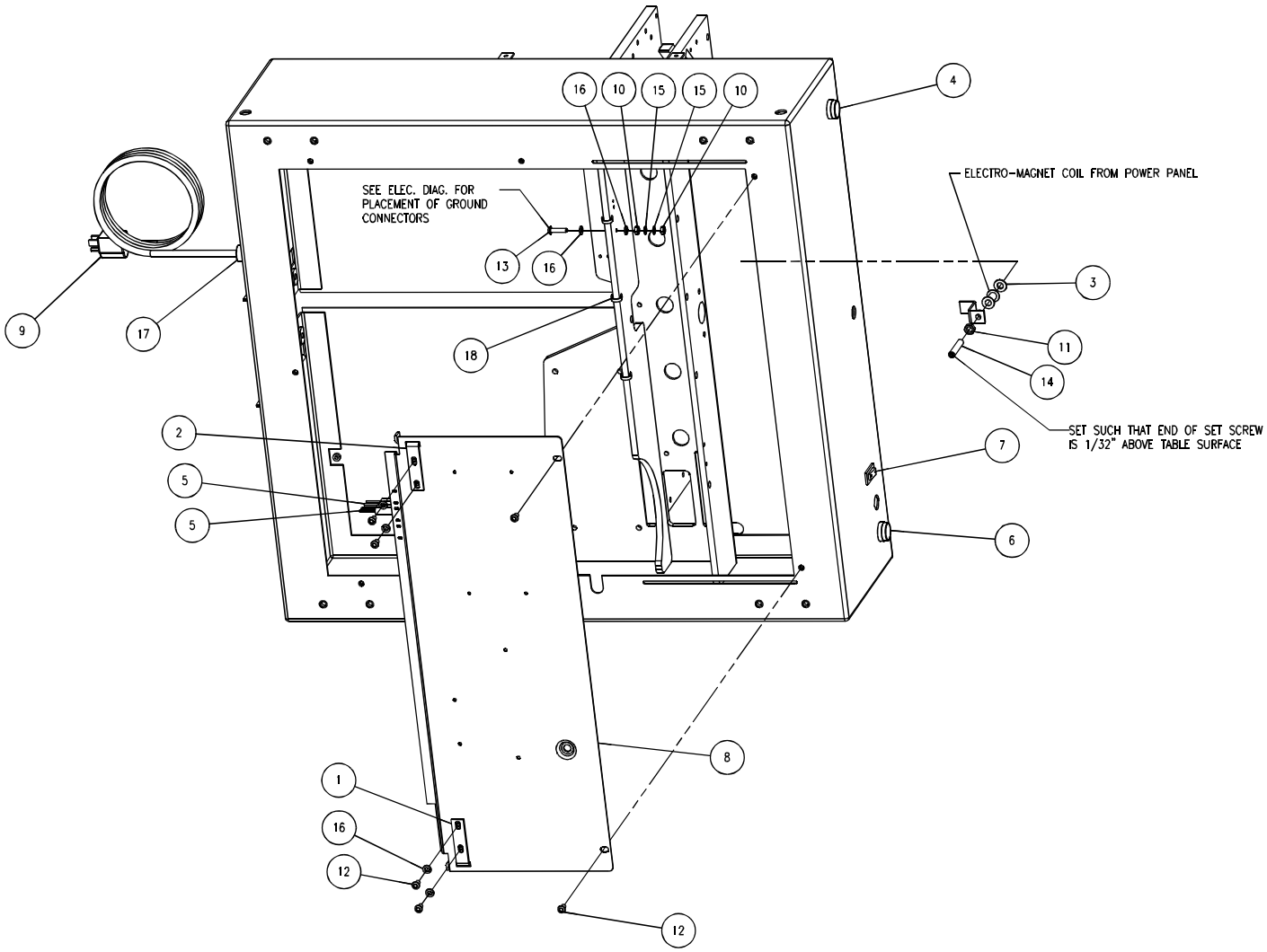
MyBinding.com When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63002	GEARBOX ASSEMBLY	1
2	63018	PULL-DOWN LINK	1
3	63062	LOWER LIMIT SWITCH BRACKET	1
4	63063	SWITCH ADJUSTMENT BRACKET	1
5	63064	UPPER LIMIT SWITCH BRACKET	1
6	63066	SLIDER BRACKET	1
7	63067	PIN - LOWER PULL DOWN	1
8	63086	ACTUATOR	1
9	35048-22	SPRING	1
10	47136-11	SPRING	1
11	E-1152-107	STANDOFF	3
12	E-3112-1	MICROSWITCH	1
13	E-3112-2	MICROSWITCH	1
14	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	4
15	H-6910-405	SCREW - 1/4-20 X 5/8 BUTTON HEAD CAP	1
16	H-6910-404SS	SCREW - 1/4-20 X 1/2 BUT. HEAD CAP STAINLESS	2
17	H-6913-610	SCREW - 3/8-16 X 1-1/4 HEX HEAD CAP	4
18	H-6918-428	SCREW - 1/4-20 X 3-1/2 SOCKET HEAD CAP	1
19	H-6918-63208	SCREW - #6-32 X 1 SOCKET HEAD CAP	4
20	H-7321-4	WASHER - 1/4 SAE PLAIN	2
21	H-7322-4	WASHER - 1/4 POLISHED	1
22	H-7324-N6	WASHER - #6 INT TOOTH	4
23	H-7327-8	WASHER - 1/4 MEDIUM LOCK	2
24	H-7327-12	WASHER - 3/8 MEDIUM LOCK	4
25	S-1694	TYRAP	2
26	S-1073-75	RETAINING RING	2

MyBinding.com
When Image Matters.

4.5 Main Asm. – Bottom Side Electrical (Models: SA, 120V, 60 Hz)

63000 Sheet 3



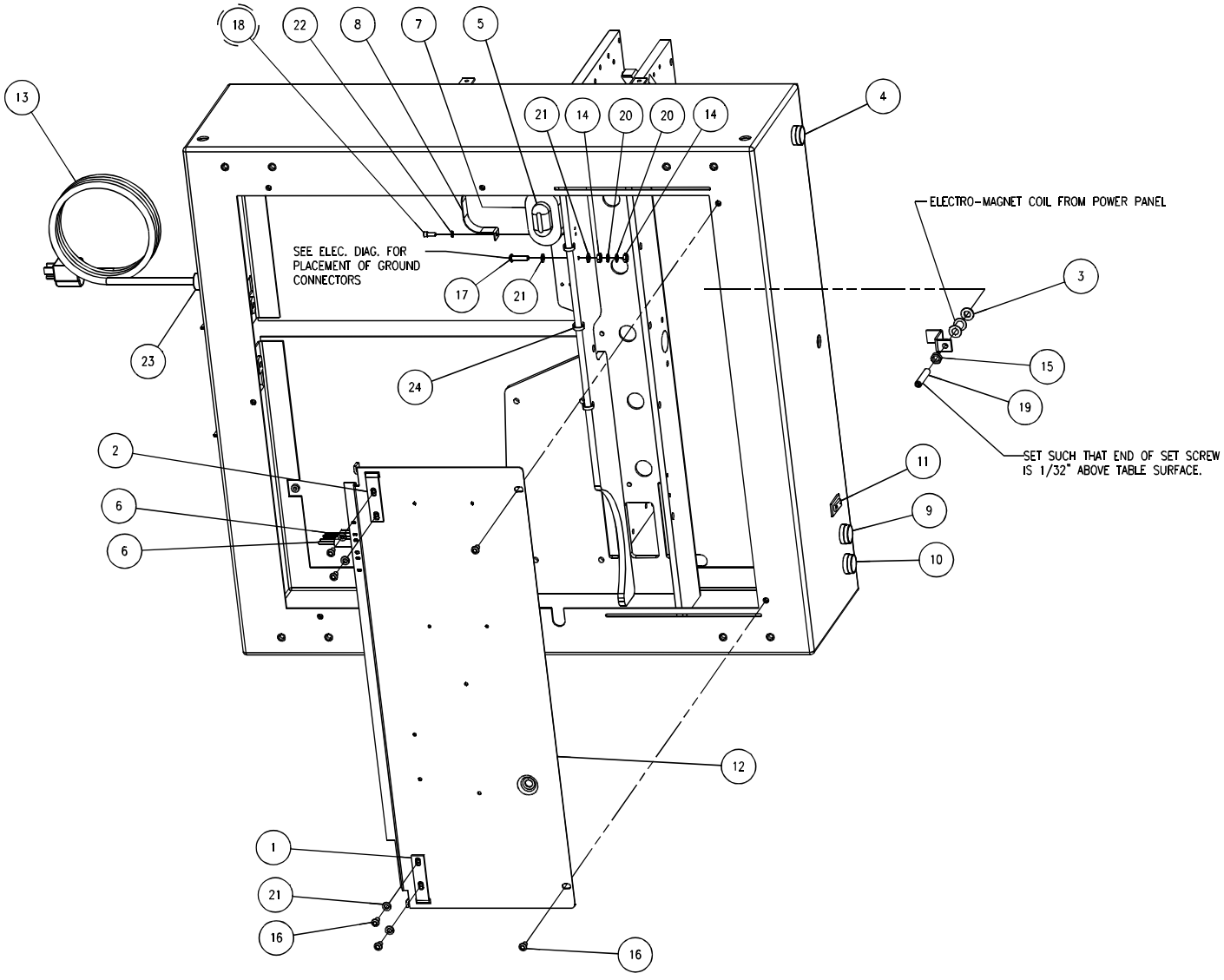
MyBinding.com When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63084	SLIDER BRACKET - RH	1
2	63085	SLIDER BRACKET - LH	1
3	47214-1	SHOULDER WASHER	1
4	E-3073	PUSHBUTTON SWITCH	1
5	E-1736-2	QUENCHARC	2
6	E-3073-3	PUSHBUTTON SWITCH	1
7	E-3074-3	CIRCUIT BREAKER AND ON/OFF SWITCH, 20A	1
8	EE-3154	ELEC. PANEL - 185 SA - 120V - 60HZ	1
9	EE-3163	POWER CORD - 120V	1
10	H-6424-4	NUT - 1/4-20 HEX JAM	2
11	H-6424-6	NUT - 3/8-16 HEX JAM	1
12	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	6
13	H-6910-408	SCREW - 1/4-20 X 1 BUTTON HEAD CAP	1
14	H-6940-632	SCREW - 3/8-16 X 2 FLAT SOC SET	1
15	H-7324-8	WASHER - 1/4 INT TOOTH	2
16	H-7327-8	WASHER - 1/4 MEDIUM LOCK	6
17	S-1350-16	STRAIN RELIEF BUSHING	1
18	S-1694-1	TYRAP	4

MyBinding.com
When Image Matters.

4.6 Main Asm. – Bottom Side Electrical (Models: A/AEP, 120V, 60 Hz)

63000 Sheet 3


SEE ELEC. DIAG. FOR PLACEMENT OF GROUND CONNECTORS
ELECTRO-MAGNET COIL FROM POWER PANEL
SET SUCH THAT END OF SET SCREW IS 1/32" ABOVE TABLE SURFACE.

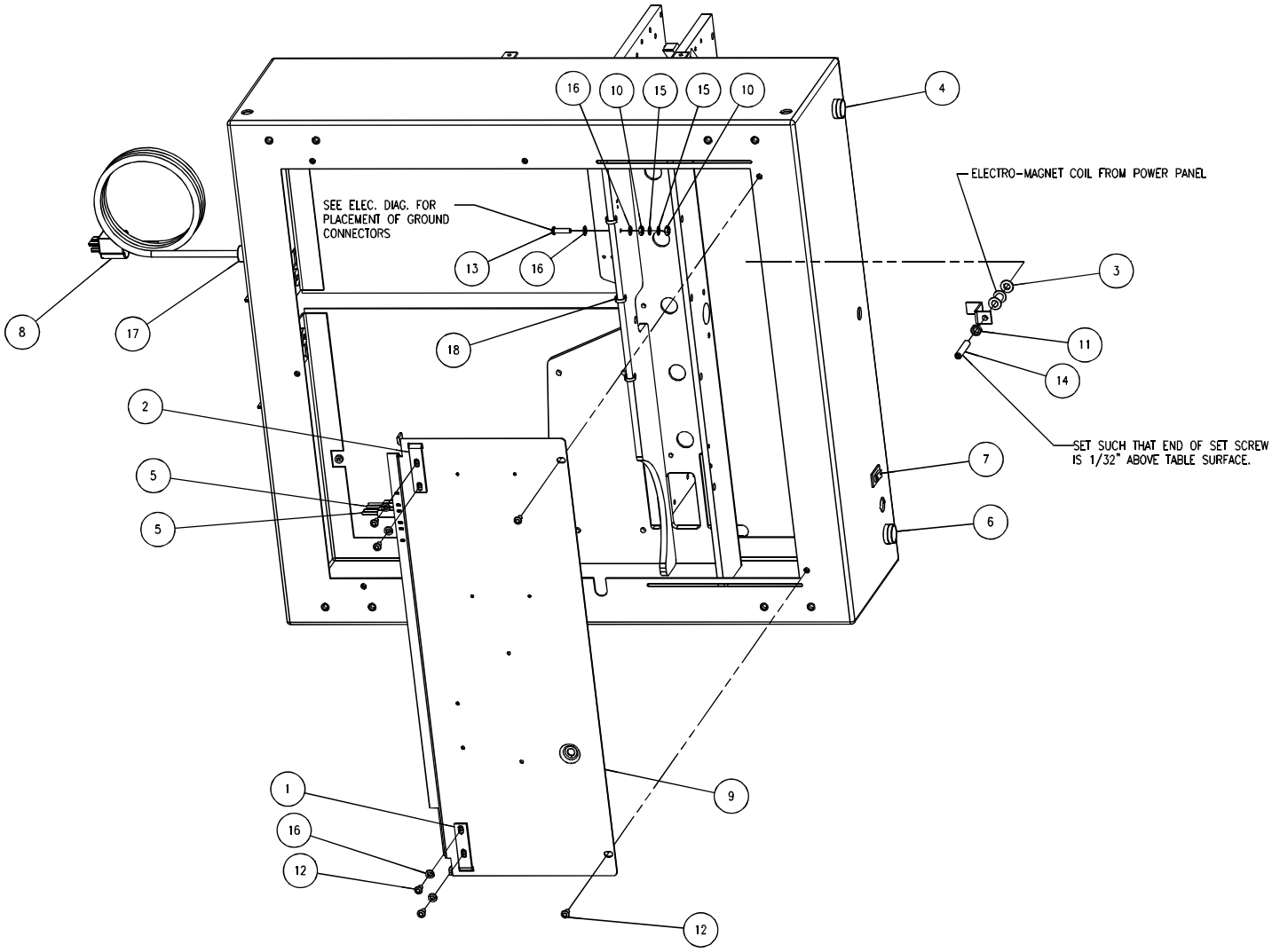
MyBinding.com When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63084	SLIDER BRACKET - RH	1
2	63085	SLIDER BRACKET - LH	1
3	47214-1	SHOULDER WASHER	1
4	E-3073	PUSHBUTTON SWITCH	1
5	E-3117	BOOT - RUBBER, MOTOR CAPACITOR	1
6	E-1736-2	QUENCHARC	2
7	E-2416-5	CAPACITOR - 80 MFD	1
8	E-2709-3	BRACKET - CAPACITOR	1
9	E-3073-1	PUSHBUTTON SWITCH	1
10	E-3073-3	PUSHBUTTON SWITCH	1
11	E-3074-3	CIRCUIT BREAKER AND ON/OFF SWITCH, 20A	1
12	EE-3133	ELEC. PANEL - 185 A/AEP - 120V - 60HZ	1
13	EE-3163	POWER CORD - 120V	1
14	H-6424-4	NUT - 1/4-20 HEX JAM	2
15	H-6424-6	NUT - 3/8-16 HEX JAM	1
16	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	6
17	H-6910-408	SCREW - 1/4-20 X 1 BUTTON HEAD CAP	1
18	H-6918-102404	SCREW - #10-24 X 1/2 SOCKET HEAD CAP	2
19	H-6940-632	SCREW - 3/8-16 X 2 FLAT SOC SET	1
20	H-7324-8	WASHER - 1/4 INT TOOTH	2
21	H-7327-8	WASHER - 1/4 MEDIUM LOCK	6
22	H-7327-N10	WASHER - #10 MEDIUM LOCK	2
23	S-1350-16	STRAIN RELIEF BUSHING	1
24	S-1694-1	TYRAP	4

MyBinding.com
When Image Matters.

4.7 Main Asm. – Bottom Side Electrical (Models: SA, 230V, 60 Hz)

63000 Sheet 3



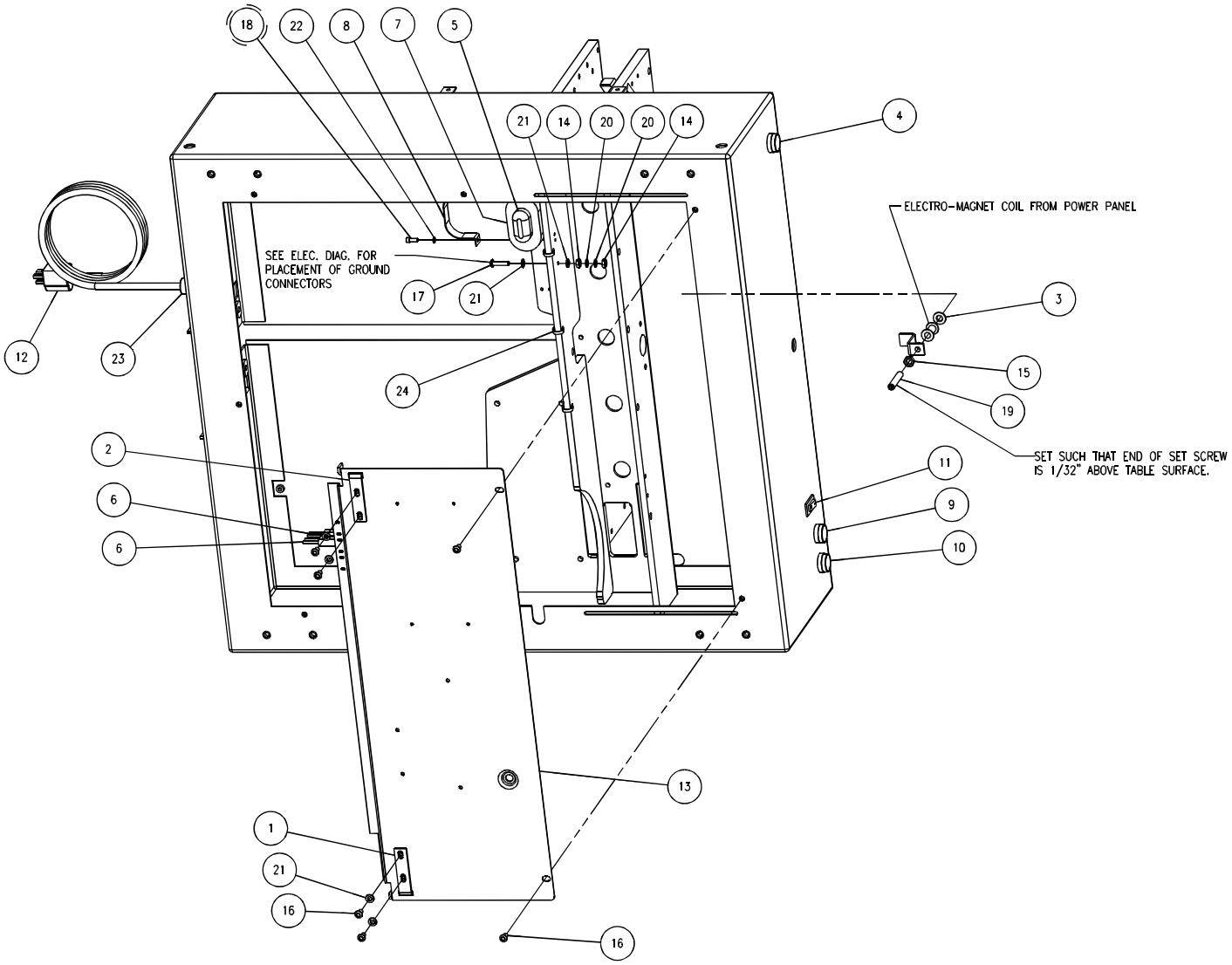
MyBinding.com When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63084	SLIDER BRACKET - RH	1
2	63085	SLIDER BRACKET - LH	1
3	47214-1	SHOULDER WASHER	1
4	E-3073	PUSHBUTTON SWITCH	1
5	E-1736-2	QUENCHARC	2
6	E-3073-3	PUSHBUTTON SWITCH	1
7	E-3074-4	CIRCUIT BREAKER AND ON/OFF SWITCH, 12A	1
8	EE-2778	POWER CORD - 120V	1
9	EE-3154-1	ELEC. PANEL - 185 SA - 230V - 50/60	1
10	H-6424-4	NUT - 1/4-20 HEX JAM	2
11	H-6424-6	NUT - 3/8-16 HEX JAM	1
12	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	6
13	H-6910-408	SCREW - 1/4-20 X 1 BUTTON HEAD CAP	1
14	H-6940-632	SCREW - 3/8-16 X 2 FLAT SOC SET	1
15	H-7324-8	WASHER - 1/4 INT TOOTH	2
16	H-7327-8	WASHER - 1/4 MEDIUM LOCK	6
17	S-1350-16	STRAIN RELIEF BUSHING	1
18	S-1694-1	TYRAP	4

MyBinding.com
When Image Matters.

4.8 Main Asm. – Bottom Side Electrical (Models: A/AEP, 230V, 60 Hz)

63000 Sheet 3



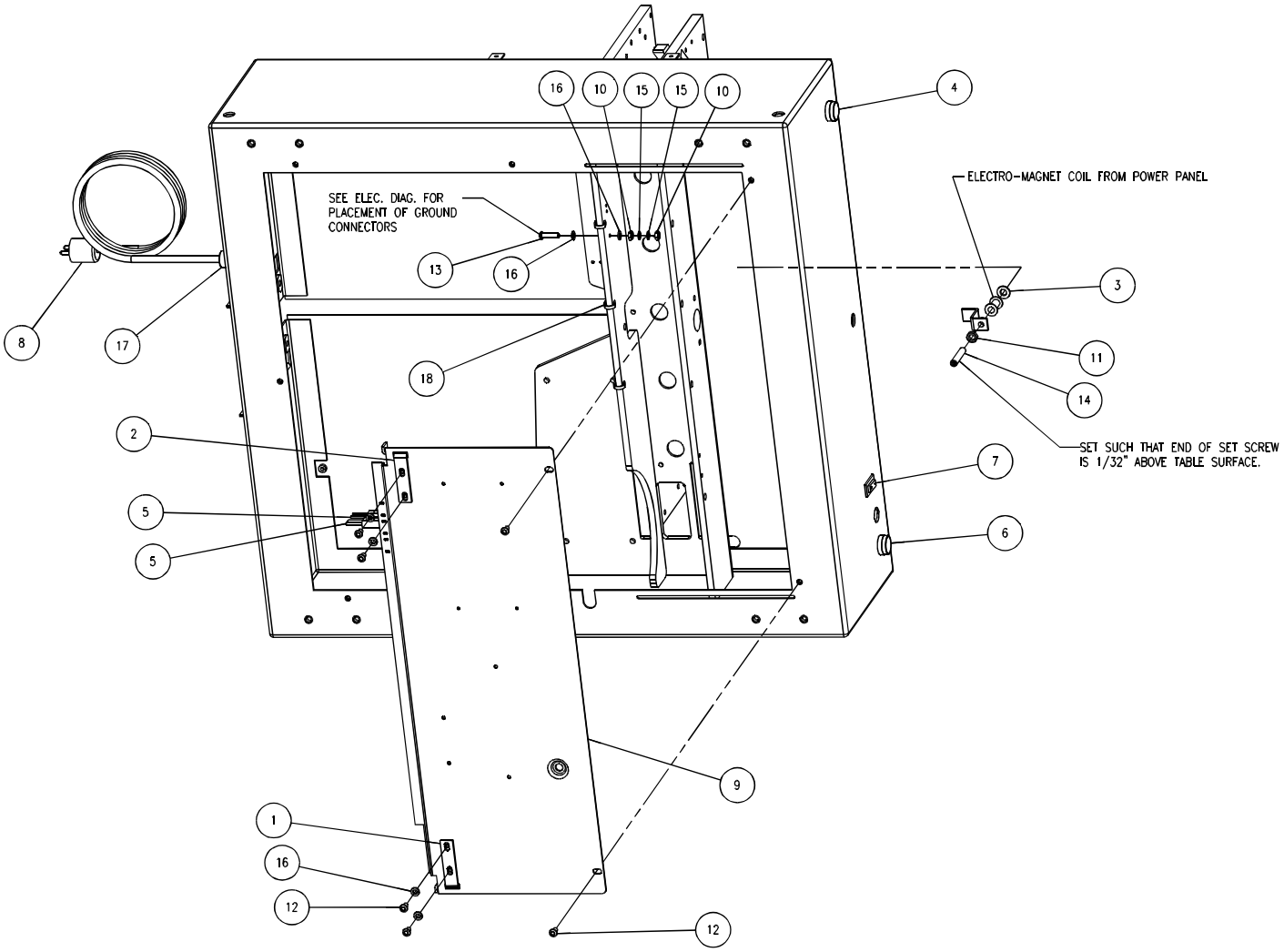
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63084	SLIDER BRACKET - RH	1
2	63085	SLIDER BRACKET - LH	1
3	47214-1	SHOULDER WASHER	1
4	E-3073	PUSHBUTTON SWITCH	1
5	E-3117	BOOT - RUBBER, MOTOR CAPACITOR	1
6	E-1736-2	QUENCHARC	2
7	E-2416-5	CAPACITOR - 80 MFD	1
8	E-2709-3	BRACKET - CAPACITOR	1
9	E-3073-1	PUSHBUTTON SWITCH	1
10	E-3073-3	PUSHBUTTON SWITCH	1
11	E-3074-4	CIRCUIT BREAKER AND ON/OFF SWITCH, 12A	1
12	EE-2778	POWER CORD - 120V	1
13	EE-3133-1	ELEC. PANEL - 185 A/AEP - 230V - 50/60	1
14	H-6424-4	NUT - 1/4-20 HEX JAM	2
15	H-6424-6	NUT - 3/8-16 HEX JAM	1
16	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	6
17	H-6910-408	SCREW - 1/4-20 X 1 BUTTON HEAD CAP	1
18	H-6918-102404	SCREW - #10-24 X 1/2 SOCKET HEAD CAP	2
19	H-6940-632	SCREW - 3/8-16 X 2 FLAT SOC SET	1
20	H-7324-8	WASHER - 1/4 INT TOOTH	2
21	H-7327-8	WASHER - 1/4 MEDIUM LOCK	6
22	H-7327-N10	WASHER - #10 MEDIUM LOCK	2
23	S-1350-16	STRAIN RELIEF BUSHING	1
24	S-1694-1	TYRAP	4

MyBinding.com
When Image Matters.

4.9 Main Asm. – Bottom Side Electrical (Models: SA, 230V, 50 Hz)

63000 Sheet 3



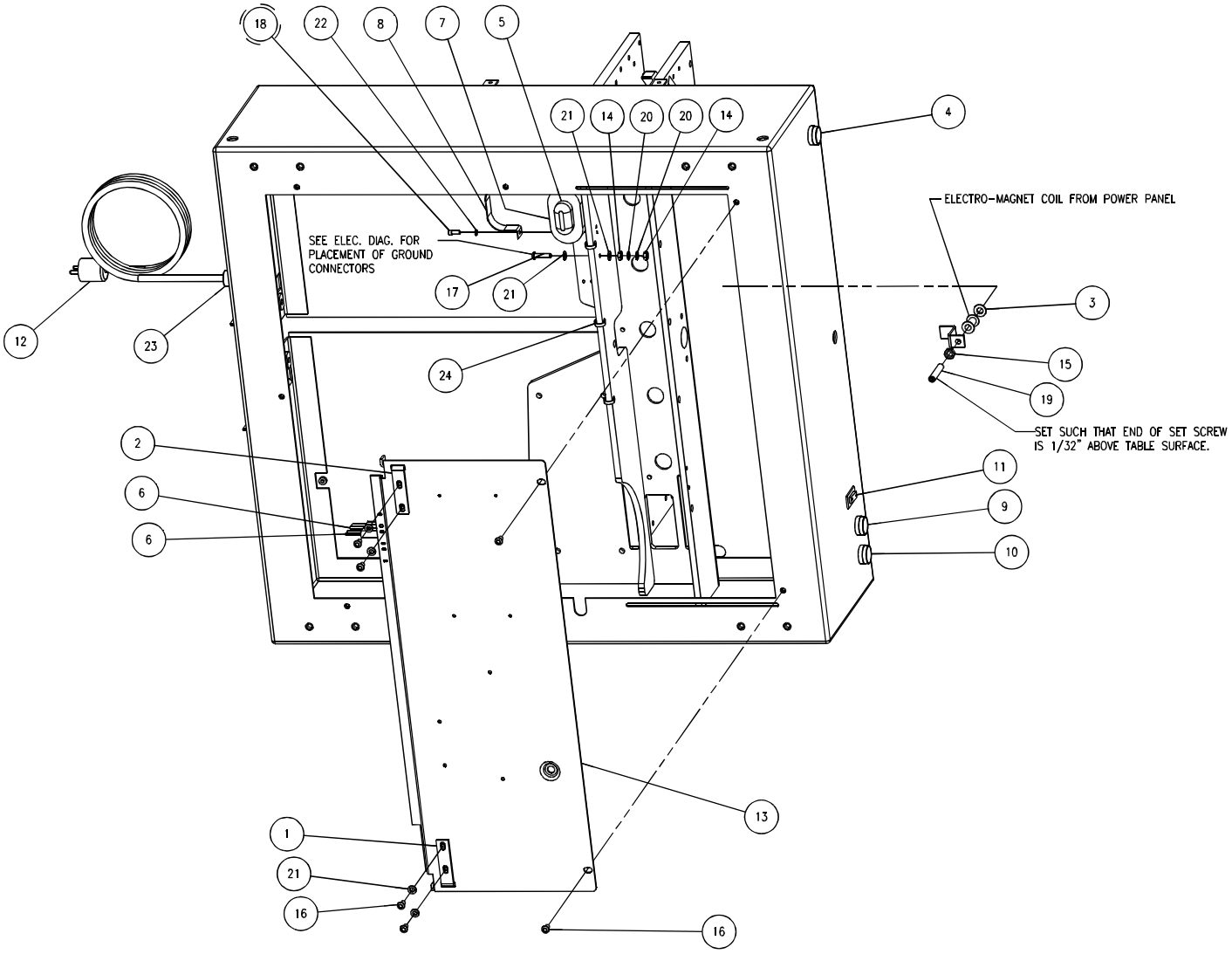
MyBinding.com When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63084	SLIDER BRACKET - RH	1
2	63085	SLIDER BRACKET - LH	1
3	47214-1	SHOULDER WASHER	1
4	E-3073	PUSHBUTTON SWITCH	1
5	E-1736-2	QUENCHARC	2
6	E-3073-3	PUSHBUTTON SWITCH	1
7	E-3074-4	CIRCUIT BREAKER AND ON/OFF SWITCH, 12A	1
8	EE-2778-1	POWER CORD - 230V EURO	1
9	EE-3154-1	ELEC. PANEL - 185 SA - 230V - 50/60	1
10	H-6424-4	NUT - 1/4-20 HEX JAM	2
11	H-6424-6	NUT - 3/8-16 HEX JAM	1
12	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	6
13	H-6910-408	SCREW - 1/4-20 X 1 BUTTON HEAD CAP	1
14	H-6940-632	SCREW - 3/8-16 X 2 FLAT SOC SET	1
15	H-7324-8	WASHER - 1/4 INT TOOTH	2
16	H-7327-8	WASHER - 1/4 MEDIUM LOCK	6
17	S-1350-16	STRAIN RELIEF BUSHING	1
18	S-1694-1	TYRAP	4

MyBinding.com
When Image Matters.

4.10 Main Asm. – Bottom Side Electrical (Models: A/AEP, 230V, 50 Hz)

63000 Sheet 3



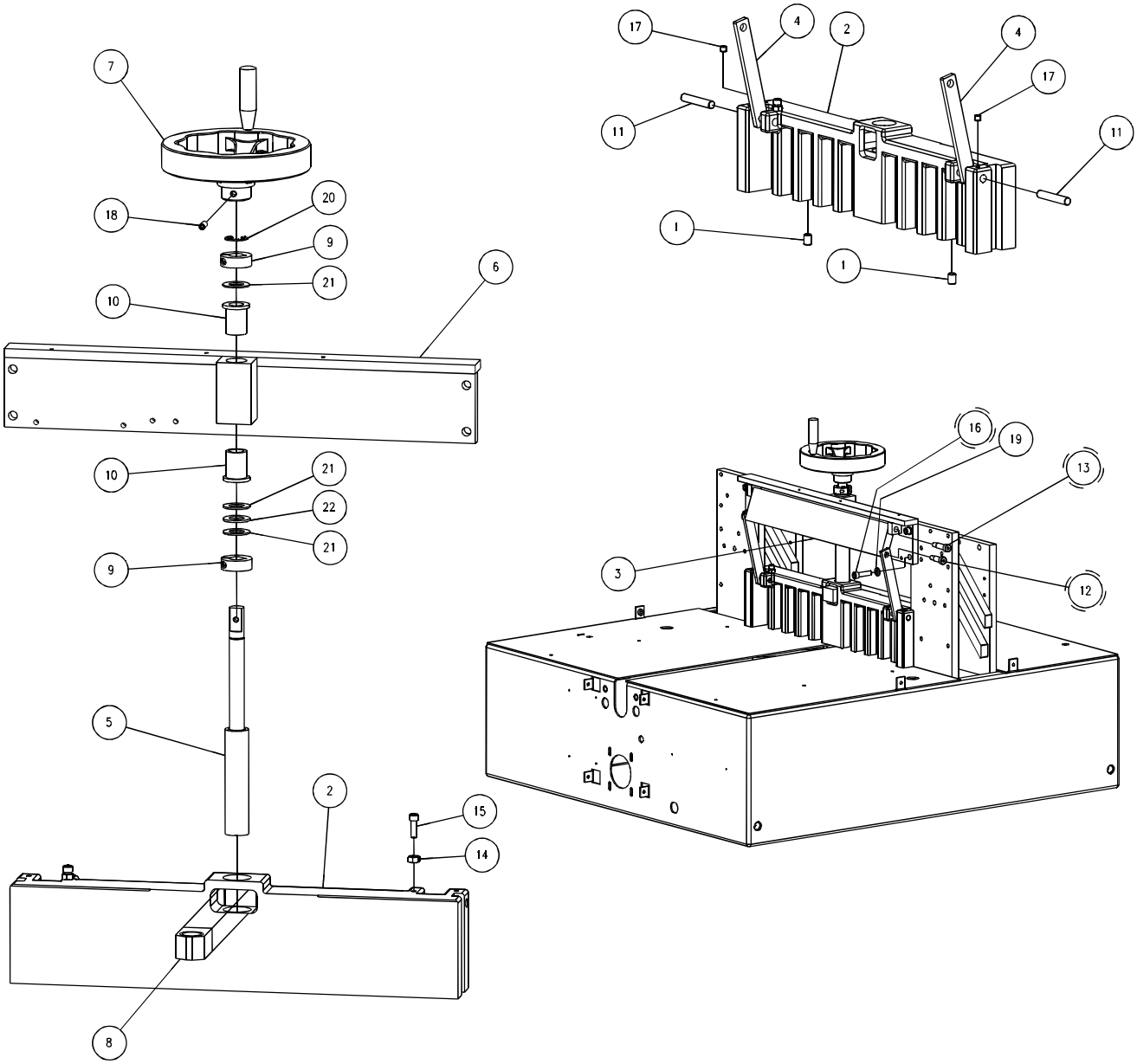
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63084	SLIDER BRACKET - RH	1
2	63085	SLIDER BRACKET - LH	1
3	47214-1	SHOULDER WASHER	1
4	E-3073	PUSHBUTTON SWITCH	1
5	E-3117	BOOT - RUBBER, MOTOR CAPACITOR	1
6	E-1736-2	QUENCHARC	2
7	E-2416-5	CAPACITOR - 80 MFD	1
8	E-2709-3	BRACKET - CAPACITOR	1
9	E-3073-1	PUSHBUTTON SWITCH	1
10	E-3073-3	PUSHBUTTON SWITCH	1
11	E-3074-4	CIRCUIT BREAKER AND ON/OFF SWITCH, 12A	1
12	EE-2778-1	POWER CORD - 230V EURO	1
13	EE-3133-1	ELEC. PANEL - 185 A/AEP - 230V - 50/60	1
14	H-6424-4	NUT - 1/4-20 HEX JAM	2
15	H-6424-6	NUT - 3/8-16 HEX JAM	1
16	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	6
17	H-6910-408	SCREW - 1/4-20 X 1 BUTTON HEAD CAP	1
18	H-6918-102404	SCREW - #10-24 X 1/2 SOCKET HEAD CAP	2
19	H-6940-632	SCREW - 3/8-16 X 2 FLAT SOC SET	1
20	H-7324-8	WASHER - 1/4 INT TOOTH	2
21	H-7327-8	WASHER - 1/4 MEDIUM LOCK	6
22	H-7327-N10	WASHER - #10 MEDIUM LOCK	2
23	S-1350-16	STRAIN RELIEF BUSHING	1
24	S-1694-1	TYRAP	4

MyBinding.com
When Image Matters.

4.11 Main Asm. – Clamp (Models: SA, 120/230V, 50/60 Hz)

63000 Sheet 4



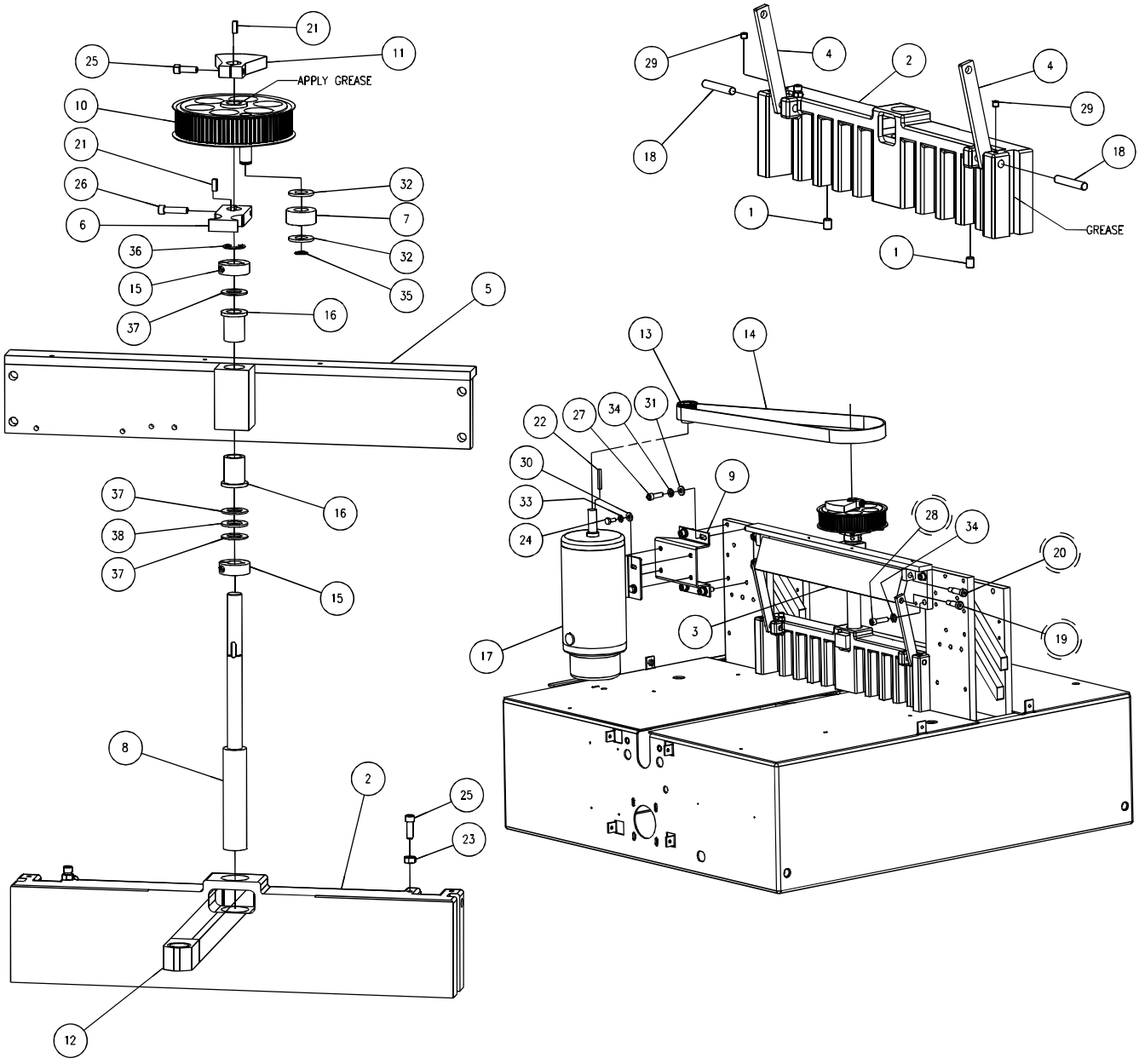
MyBinding.com When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	60053	MAGNET - RARE EARTH	2
2	63019	CLAMP	1
3	63021	TORSION BAR	1
4	63022	TORSION LINK	2
5	63024	ARCH WELDMENT	1
6	63036	ACTUATOR	1
7	63045	HAND WHEEL	
8	63075	CLAMP LEADSCREW	1
9	63076	MOTOR BRACKET	1
10	63081	CLAMP PULLEY ASSEMBLY - 80 GROOVE	1
11	63083	COUNTERWEIGHT	1
12	63029-1	NUT - CLAMP LEADSCREW, 185A	1
13	63038-2	MOTOR PULLEY - 5MM GT2, 25MM X 22 GROOVE	1
14	63078-1	TIMING BELT - 5MM GT2, 25MM X 195T	1
15	A-10081-7	SPLIT COLLAR	2
16	A-10257-19	FLANGE BEARING	2
17	E-1600-41	1/2 HP 230V 50/60HZ MOTOR W/ BRAKE	1
18	H-5246-618	DOWEL PIN - 3/8 X 2-1/4 HD GD	2
19	H-5254-606	SCREW - 3/8 X 3/4 SHSS	2
20	H-5254-608	SCREW - 3/8 X 1 SHSS	2
21	H-6123-30304	MACHINE KEY - .188 X .188 X .500	2
22	H-6123-30312	MACHINE KEY - .188 X .188 X 1.500	1
23	H-6417-4	NUT - 1/4-20 HEX	2
24	H-6913-405	SCREW - 1/4-20 X 5/8 HEX HEAD CAP	4
25	H-6918-406	SCREW - 1/4-20 X 3/4 SOCKET HEAD CAP	3
26	H-6918-408	SCREW - 1/4-20 X 1 SOCKET HEAD CAP	1
27	H-6918-508	SCREW - 5/16-18 X 1 SOCKET HEAD CAP	4
28	H-6918-510	SCREW - 5/16-18 X 1-1/4 SOCKET HEAD CAP	4
29	H-6938-404	SCREW - 1/4-20 X 1/4 CUP SOC SET	2
30	H-7321-4	WASHER - 1/4 SAE PLAIN	4
31	H-7321-5	WASHER - 5/16 SAE PLAIN	4
32	H-7322-8	WASHER - 1/2 POLISHED	2
33	H-7327-8	WASHER - 1/4 MEDIUM LOCK	4
34	H-7327-10	WASHER - 5/16 MEDIUM LOCK	8
35	S-1073-50	RETAINING RING	1
36	S-1193-62	E-RING - 5/8"	1
37	S-1295-8	THRUST WASHER	3
38	S-1300-4	THRUST BEARING	1

MyBinding.com
When Image Matters.

4.12 Main Asm. – Clamp (Models: A/AEP, 120V, 60 Hz)

63000 Sheet 4



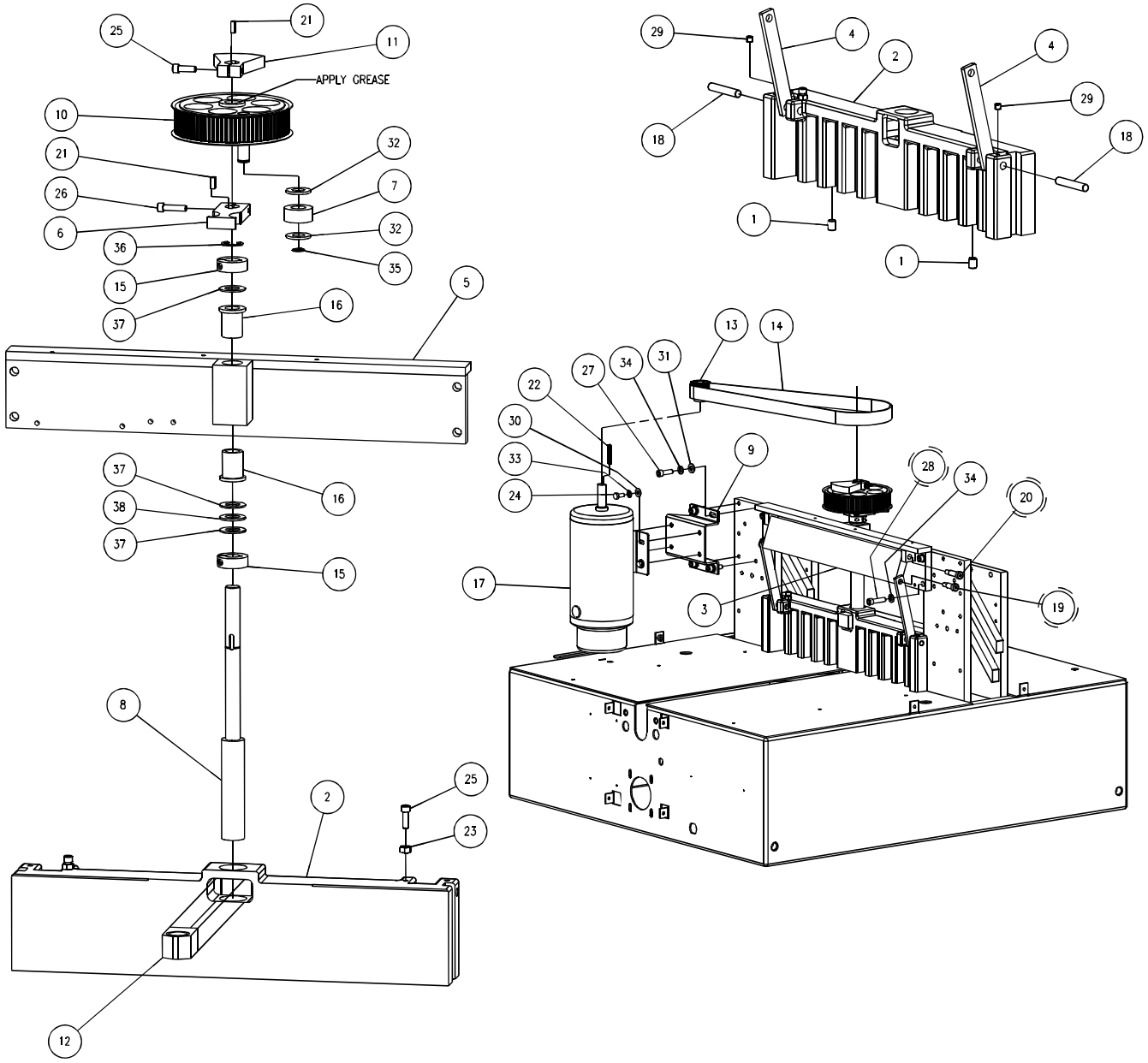
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	60053	MAGNET - RARE EARTH	2
2	63019	CLAMP	1
3	63021	TORSION BAR	1
4	63022	TORSION LINK	2
5	63024	ARCH WELDMENT	1
6	63036	ACTUATOR	1
7	63037	BUMPER	1
8	63075	CLAMP LEADSCREW	1
9	63076	MOTOR BRACKET	1
10	63081	CLAMP PULLEY ASSEMBLY - 80 GROOVE	1
11	63083	COUNTERWEIGHT	1
12	63029-1	NUT - CLAMP LEADSCREW, 185A	1
13	63038-2	MOTOR PULLEY - 5MM GT2, 25MM X 22 GROOVE	1
14	63078-1	TIMING BELT - 5MM GT2, 25MM X 195T	1
15	A-10081-7	SPLIT COLLAR	2
16	A-10257-19	FLANGE BEARING	2
17	E-1600-40	1/2 HP 115V 60HZ MOTOR W/ BRAKE	1
18	H-5246-618	DOWEL PIN - 3/8 X 2-1/4 HD GD	2
19	H-5254-606	SCREW - 3/8 X 3/4 SHSS	2
20	H-5254-608	SCREW - 3/8 X 1 SHSS	2
21	H-6123-30304	MACHINE KEY - .188 X .188 X .500	2
22	H-6123-30312	MACHINE KEY - .188 X .188 X 1.500	1
23	H-6417-4	NUT - 1/4-20 HEX	2
24	H-6913-405	SCREW - 1/4-20 X 5/8 HEX HEAD CAP	4
25	H-6918-406	SCREW - 1/4-20 X 3/4 SOCKET HEAD CAP	3
26	H-6918-408	SCREW - 1/4-20 X 1 SOCKET HEAD CAP	1
27	H-6918-508	SCREW - 5/16-18 X 1 SOCKET HEAD CAP	4
28	H-6918-510	SCREW - 5/16-18 X 1-1/4 SOCKET HEAD CAP	4
29	H-6938-404	SCREW - 1/4-20 X 1/4 CUP SOC SET	2
30	H-7321-4	WASHER - 1/4 SAE PLAIN	4
31	H-7321-5	WASHER - 5/16 SAE PLAIN	4
32	H-7322-8	WASHER - 1/2 POLISHED	2
33	H-7327-8	WASHER - 1/4 MEDIUM LOCK	4
34	H-7327-10	WASHER - 5/16 MEDIUM LOCK	8
35	S-1073-50	RETAINING RING	1
36	S-1193-62	E-RING - 5/8"	1
37	S-1295-8	THRUST WASHER	3
38	S-1300-4	THRUST BEARING	1

MyBinding.com When Image Matters.

4.13 Main Asm. – Clamp (Models: A/AEP, 230V, 50/60 Hz)

63000 Sheet 4



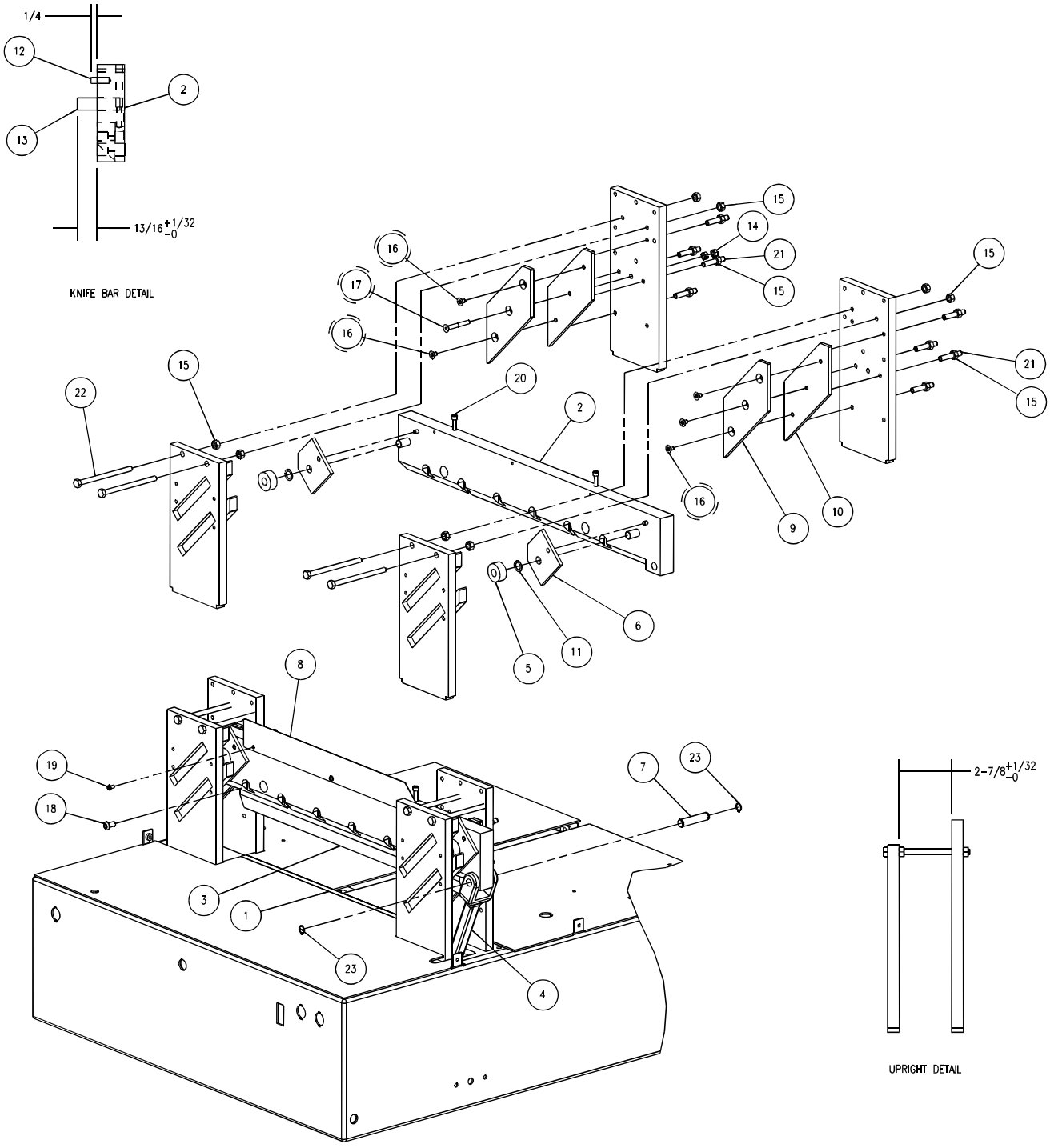
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	60053	MAGNET - RARE EARTH	2
2	63019	CLAMP	1
3	63021	TORSION BAR	1
4	63022	TORSION LINK	2
5	63024	ARCH WELDMENT	1
6	63036	ACTUATOR	1
7	63037	BUMPER	1
8	63075	CLAMP LEADSCREW	1
9	63076	MOTOR BRACKET	1
10	63081	CLAMP PULLEY ASSEMBLY - 80 GROOVE	1
11	63083	COUNTERWEIGHT	1
12	63029-1	NUT - CLAMP LEADSCREW, 185A	1
13	63038-2	MOTOR PULLEY - 5MM GT2, 25MM X 22 GROOVE	1
14	63078-1	TIMING BELT - 5MM GT2, 25MM X 195T	1
15	A-10081-7	SPLIT COLLAR	2
16	A-10257-19	FLANGE BEARING	2
17	E-1600-41	1/2 HP 230V 50/60HZ MOTOR W/ BRAKE	1
18	H-5246-618	DOWEL PIN - 3/8 X 2-1/4 HD GD	2
19	H-5254-606	SCREW - 3/8 X 3/4 SHSS	2
20	H-5254-608	SCREW - 3/8 X 1 SHSS	2
21	H-6123-30304	MACHINE KEY - .188 X .188 X .500	2
22	H-6123-30312	MACHINE KEY - .188 X .188 X 1.500	1
23	H-6417-4	NUT - 1/4-20 HEX	2
24	H-6913-405	SCREW - 1/4-20 X 5/8 HEX HEAD CAP	4
25	H-6918-406	SCREW - 1/4-20 X 3/4 SOCKET HEAD CAP	3
26	H-6918-408	SCREW - 1/4-20 X 1 SOCKET HEAD CAP	1
27	H-6918-508	SCREW - 5/16-18 X 1 SOCKET HEAD CAP	4
28	H-6918-510	SCREW - 5/16-18 X 1-1/4 SOCKET HEAD CAP	4
29	H-6938-404	SCREW - 1/4-20 X 1/4 CUP SOC SET	2
30	H-7321-4	WASHER - 1/4 SAE PLAIN	4
31	H-7321-5	WASHER - 5/16 SAE PLAIN	4
32	H-7322-8	WASHER - 1/2 POLISHED	2
33	H-7327-8	WASHER - 1/4 MEDIUM LOCK	4
34	H-7327-10	WASHER - 5/16 MEDIUM LOCK	8
35	S-1073-50	RETAINING RING	1
36	S-1193-62	E-RING - 5/8"	1
37	S-1295-8	THRUST WASHER	3
38	S-1300-4	THRUST BEARING	1

MyBinding.com
When Image Matters.

4.14 Main Asm. – Knife (All Models)

63000 Sheet 5



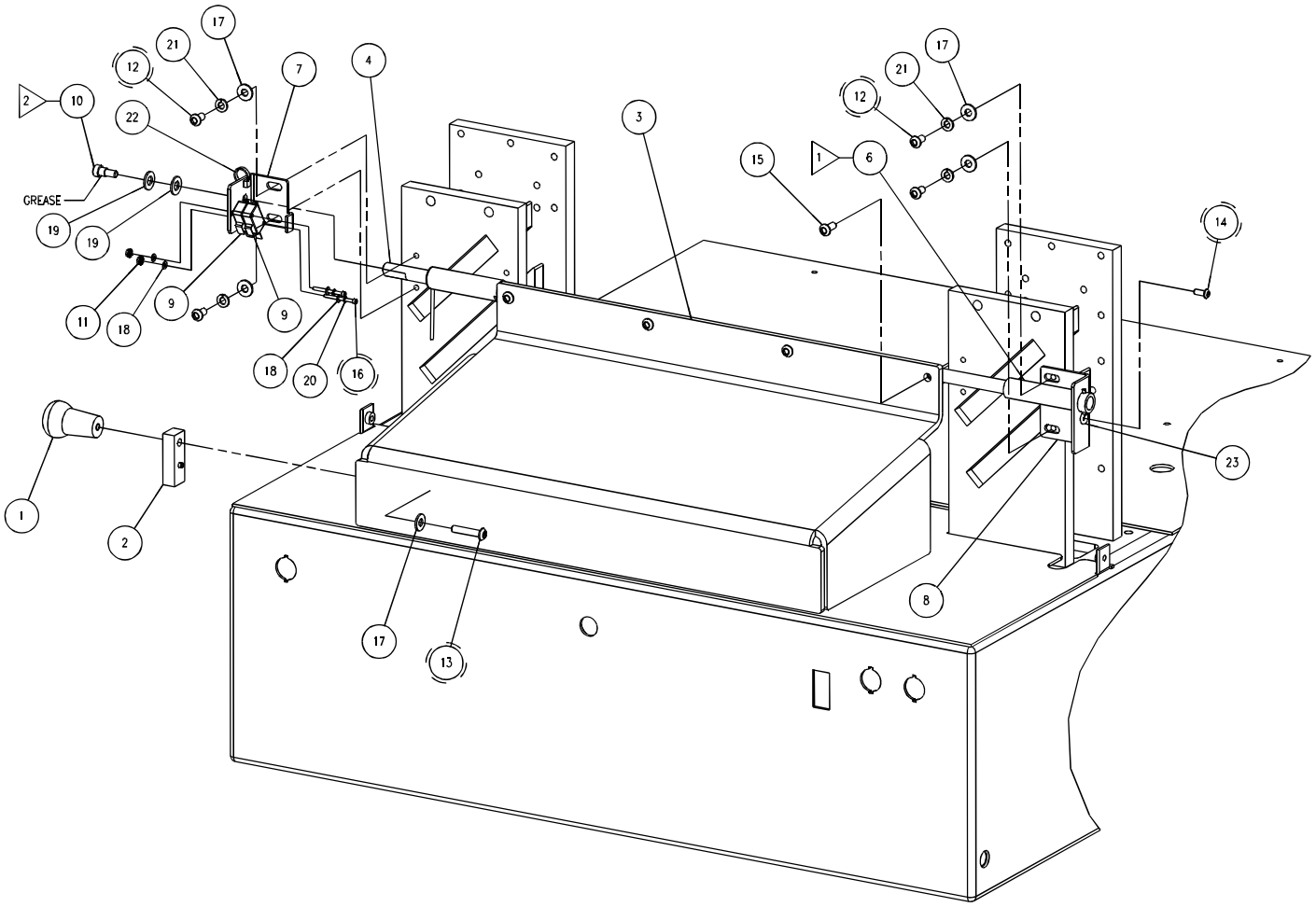
MyBinding.com When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63015	CUT STICK	1
2	63016	KNIFE BAR	1
3	63017	KNIFE	1
4	63018	PULL-DOWN LINK	1
5	63030	ROLLER	2
6	63031	SLIDE PLATE	2
7	63068	PIN - UPPER PULL DOWN	1
8	63069	KNIFE BAR MOUNTED GUARD	1
9	63087	GIB INSERT	2
10	63088	GIB SUPPORT	2
11	61065-500032	SHLD SCR SHORTENING SHIM- 1/2	2
12	H-5246-406	DOWEL PIN - 1/4 X 3/4 HD GD	2
13	H-5246-814	DOWEL PIN - 1/2 X 1-3/4 HD GD	2
14	H-6417-4	NUT - 1/4-20 HEX	2
15	H-6417-5	NUT - 5/16-18 HEX	16
16	H-6909-403	SCREW - 1/4-20 X 3/8" FLAT HEAD CAP	5
17	H-6909-416	SCREW - 1/4-20 X 2" FLAT HEAD CAP	1
18	H-6910-505	SCREW - 5/16-18 X 5/8 BUTTON HEAD CAP	6
19	H-6910-102403SS	SCREW - #10-24 X 3/8 BUT. HEAD CAP STAINLESS	3
20	H-6918-428	SCREW - 1/4-20 X 3-1/2 SOCKET HEAD CAP	2
21	H-6940-528	SCREW - 5/16-18 X 1-3/4 FLAT SOC SET	8
22	H-6992-536	SCREW - 5/16-18 X 4-1/2 FULL THD HEX HD	4
23	S-1073-50	RETAINING RING	2

MyBinding.com
When Image Matters.

4.15 Main Asm. – Front Shield (All Models)

63000 Sheet 6



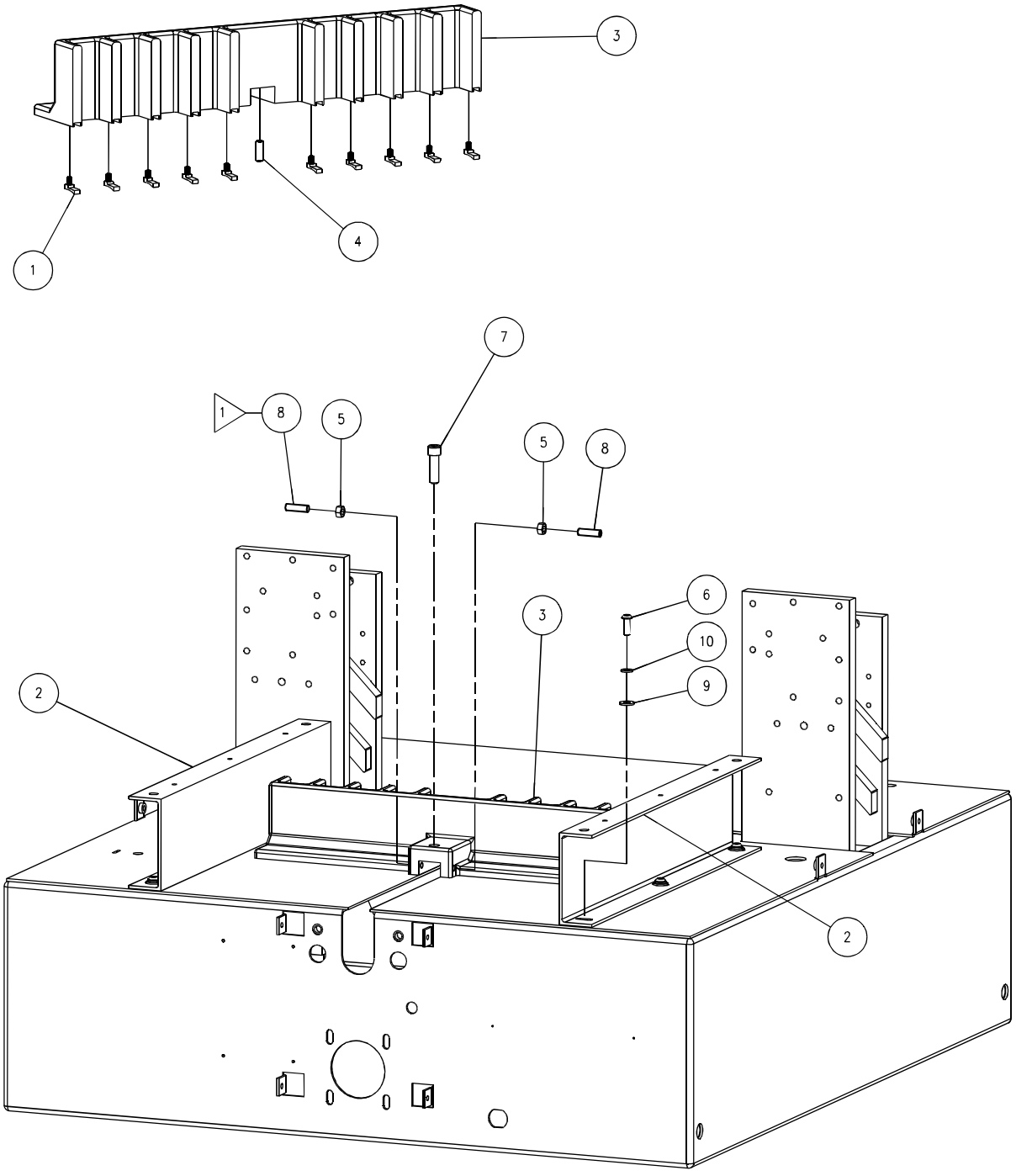
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	60047	HANDLE - SHIELD	1
2	60052	MAGNET ASSEMBLY	1
3	63040	TILT SHIELD	1
4	63041	HINGE ROD	1
5	63042	TORSION SPRING	1
6	63043	DAMPENING TUBE	1
7	63060	SHIELD BRACKET - LH	1
8	63061	SHIELD BRACKET - RH	1
9	E-866-9	POSITIVE ACTION MICROSWITCH	2
10	H-5254-502	SCREW - 5/16 X 1/4 SHSS	1
11	H-6423-N4	NUT - #4-40 HEX KEP	2
12	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	4
13	H-6910-410	SCREW - 1/4-20 X 1-1/4 BUTTON HEAD CAP	1
14	H-6910-102404	SCREW - #10-24 X 1/2 BUTTON HEAD CAP	1
15	H-6910-405SS	SCREW - 1/4-20 X 5/8 BUT. HEAD CAP STAINLESS	4
16	H-6918-44010	SCREW - #4-40 X 1-1/4 SOCKET HEAD CAP	2
17	H-7321-4	WASHER - 1/4 SAE PLAIN	5
18	H-7321-N4	WASHER - #4 SAE PLAIN	4
19	H-7322-5	WASHER - 5/16 POLISHED	2
20	H-7324-N4	WASHER - #4 INT TOOTH	2
21	H-7327-8	WASHER - 1/4 MEDIUM LOCK	4
22	S-1694	TYRAP	1
23	S-1244-1	LOCK PIN	1
24	SU-30-106	GREASE - DAMPENING	1

MyBinding.com
When Image Matters.

4.16 Main Asm. – Backgauge (All Models)

63000 Sheet 7



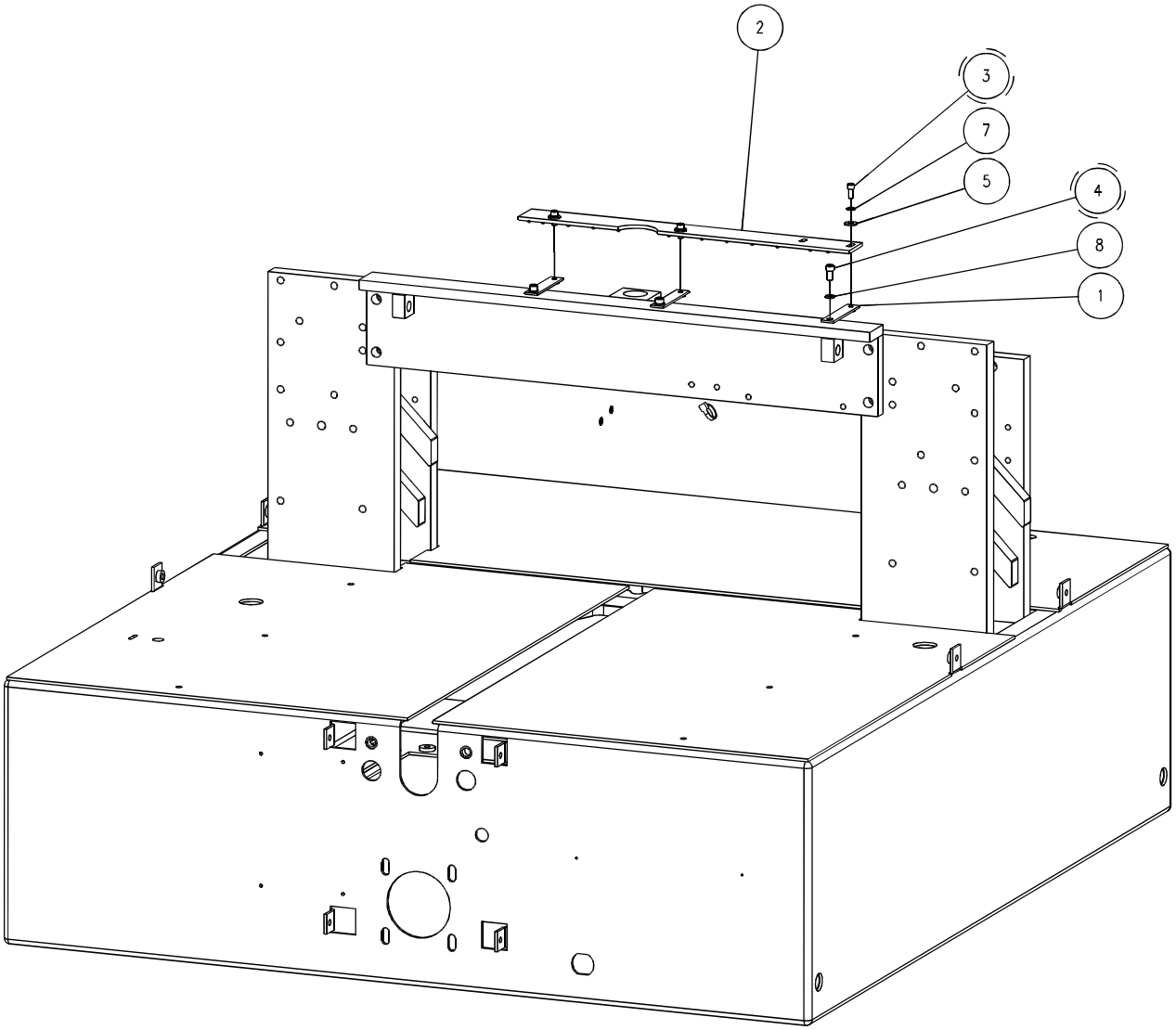
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	60204	FLOATING FINGER	10
2	63020	SIDE GUIDE	2
3	63204	BACKGAUGE- MACHINED	1
4	H-5246-406	DOWEL PIN - 1/4 X 3/4 HD GD	1
5	H-6417-4	NUT - 1/4-20 HEX	2
6	H-6910-406	SCREW - 1/4-20 X 3/4 BUTTON HEAD CAP	6
7	H-6918-610	SCREW - 3/8-16 X 1-1/4 SOCKET HEAD CAP	1
8	H-6938-416	SCREW - 1/4-20 X 1 CUP SOC SET	2
9	H-7321-4	WASHER - 1/4 SAE PLAIN	6
10	H-7327-8	WASHER - 1/4 MEDIUM LOCK	6

MyBinding.com
When Image Matters.

4.17 Main Asm. – Top Side Elec. (Models: SA, 120/230V, 50/60 Hz)

63000 Sheet 8



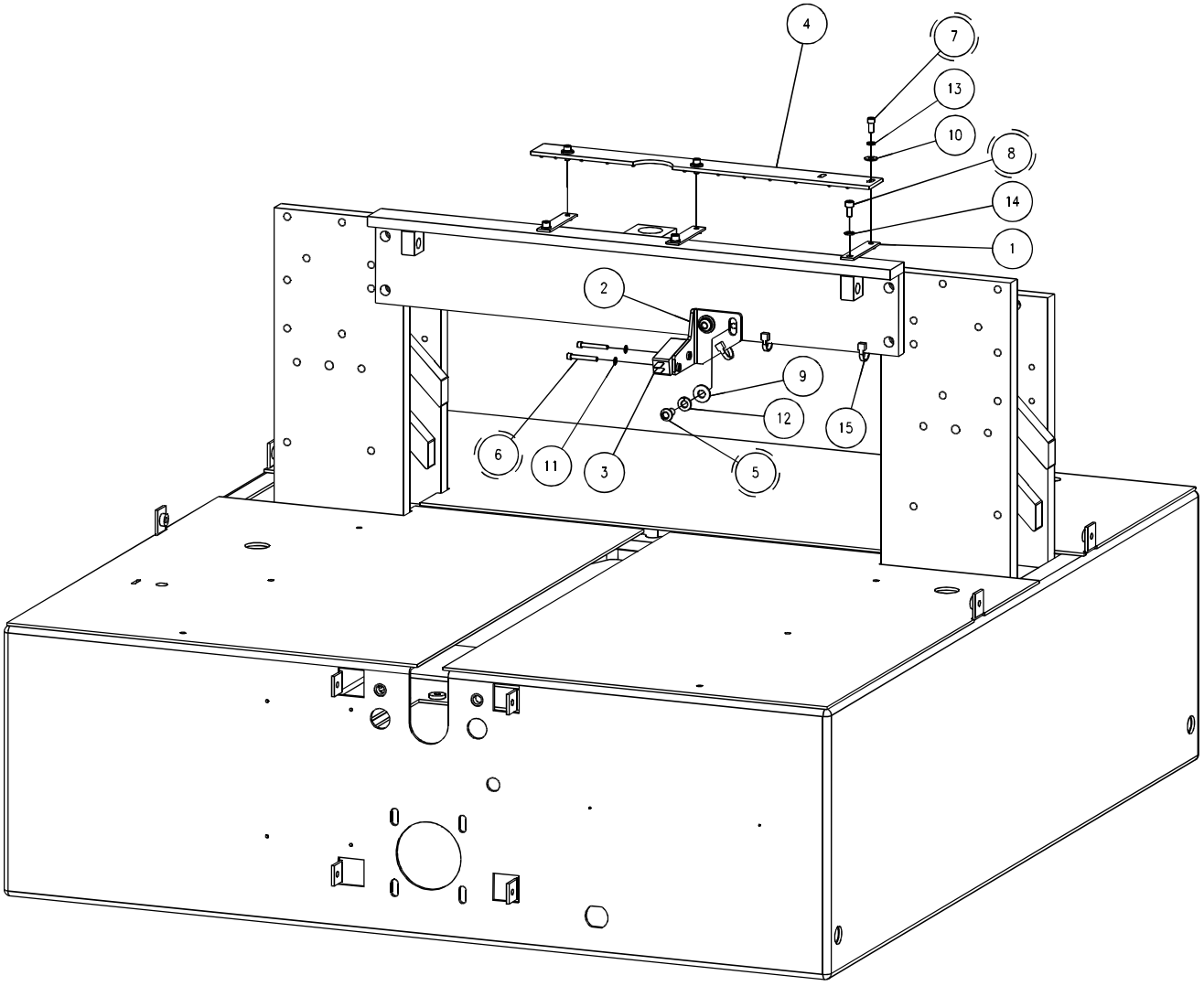
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63070	LINE LIGHT BRACKET	3
2	EE-3162	BOARD	1
3	H-6918-83203	SCREW - #8-32 X 3/8 SOCKET HEAD CAP	3
4	H-6918-102403	SCREW - #10-24 X 3/8 SOCKET HEAD CAP	3
5	H-7321-N8	WASHER - #8 SAE PLAIN	3
6	H-7324-N6	WASHER - #6 INT TOOTH	2
7	H-7327-N8	WASHER - #8 MEDIUM LOCK	3
8	H-7327-N10	WASHER - #10 MEDIUM LOCK	3
9	S-1694	TYRAP	1

MyBinding.com When Image Matters.

4.18 Main Asm. – Top Side Elec. (Models: A/AEP, 120/230V, 50/60 Hz)

63000 Sheet 8



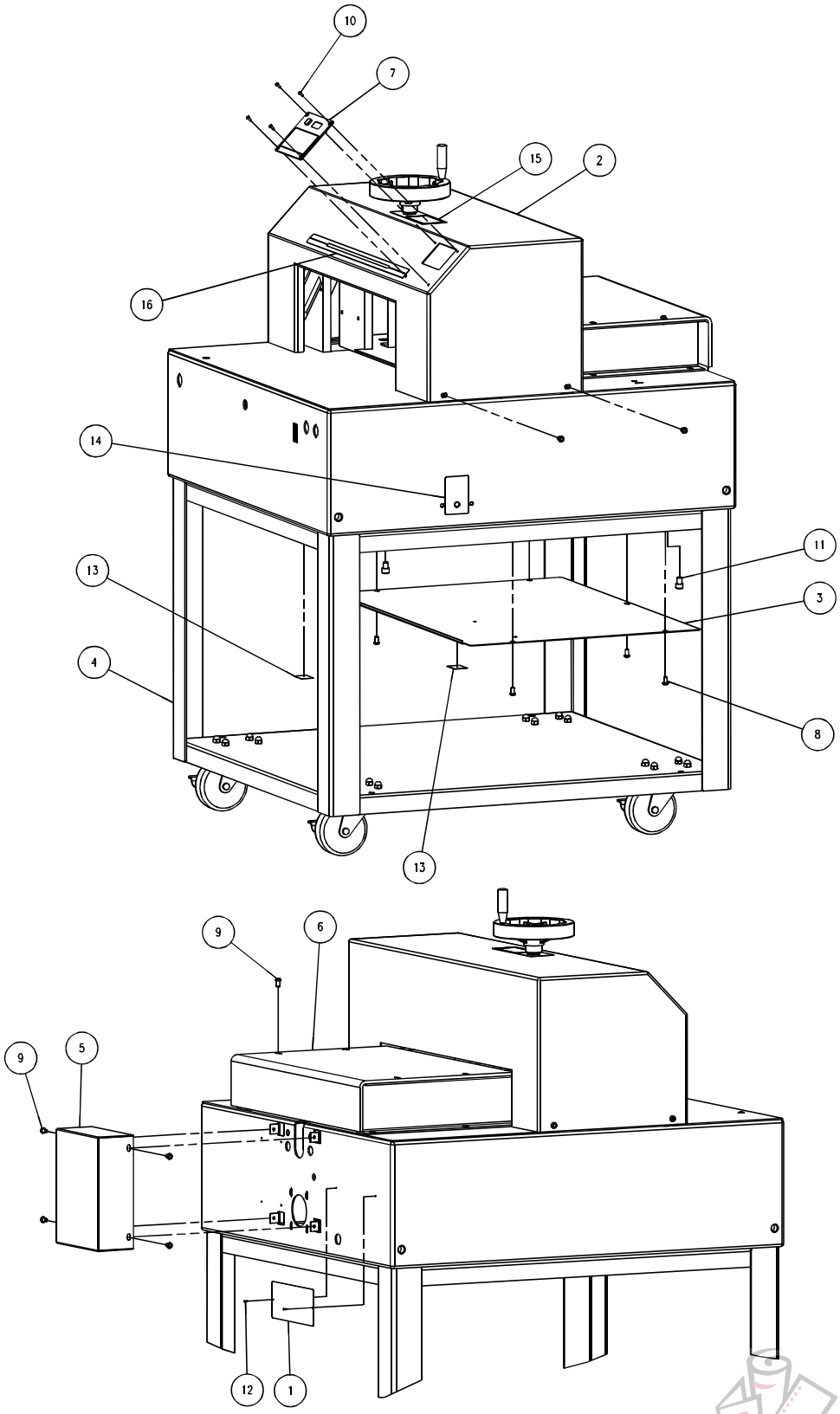
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63070	LINE LIGHT BRACKET	3
2	63080	BRACKET - CLAMP UP LIMIT SWITCH	1
3	E-3112	MICROSWITCH	1
4	EE-3162	BOARD	1
5	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	2
6	H-6918-63208	SCREW - #6-32 X 1 SOCKET HEAD CAP	2
7	H-6918-83203	SCREW - #8-32 X 3/8 SOCKET HEAD CAP	3
8	H-6918-102403	SCREW - #10-24 X 3/8 SOCKET HEAD CAP	3
9	H-7321-4	WASHER - 1/4 SAE PLAIN	2
10	H-7321-N8	WASHER - #8 SAE PLAIN	3
11	H-7324-N6	WASHER - #6 INT TOOTH	2
12	H-7327-8	WASHER - 1/4 MEDIUM LOCK	2
13	H-7327-N8	WASHER - #8 MEDIUM LOCK	3
14	H-7327-N10	WASHER - #10 MEDIUM LOCK	3
15	S-1694	TYRAP	3

MyBinding.com
When Image Matters.

4.19 Main Asm. – Covers and Labels (Models: SA, 120/230V, 50/60 Hz)

63000 Sheet 9



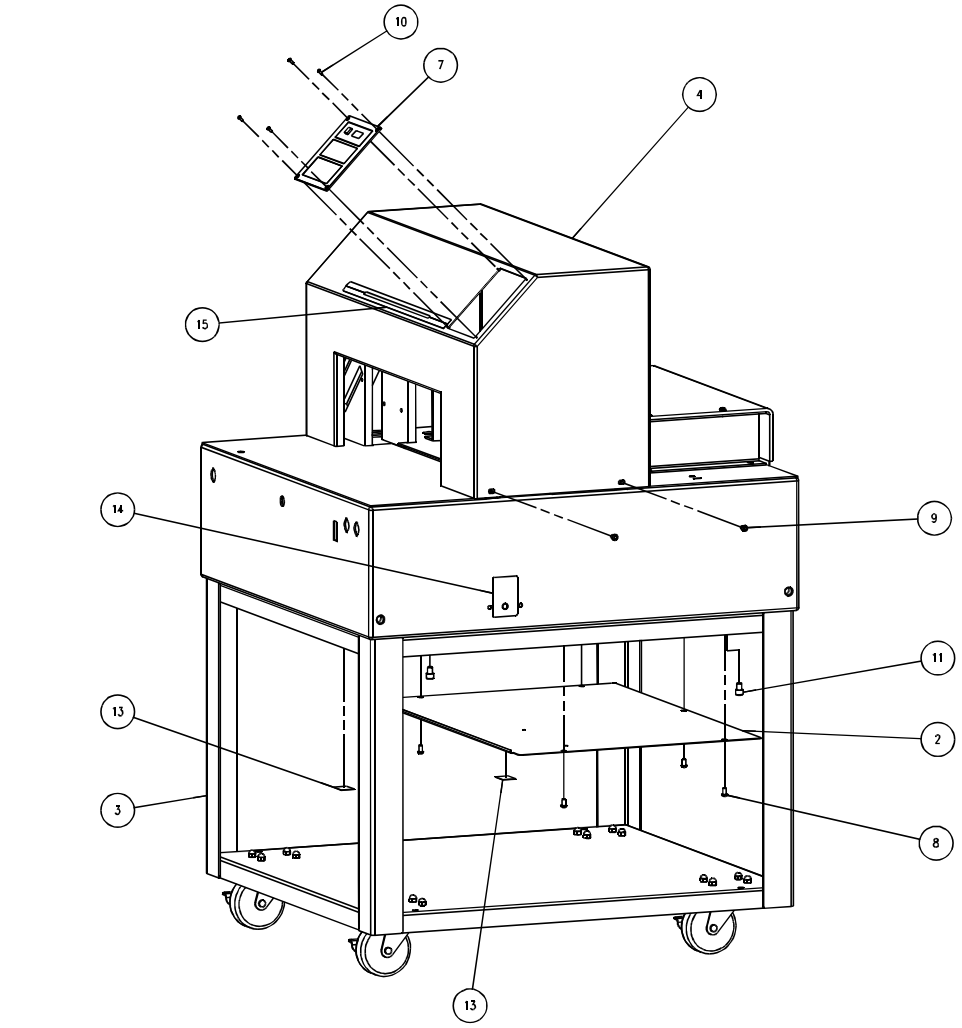
MyBinding.com
When Image Matters.

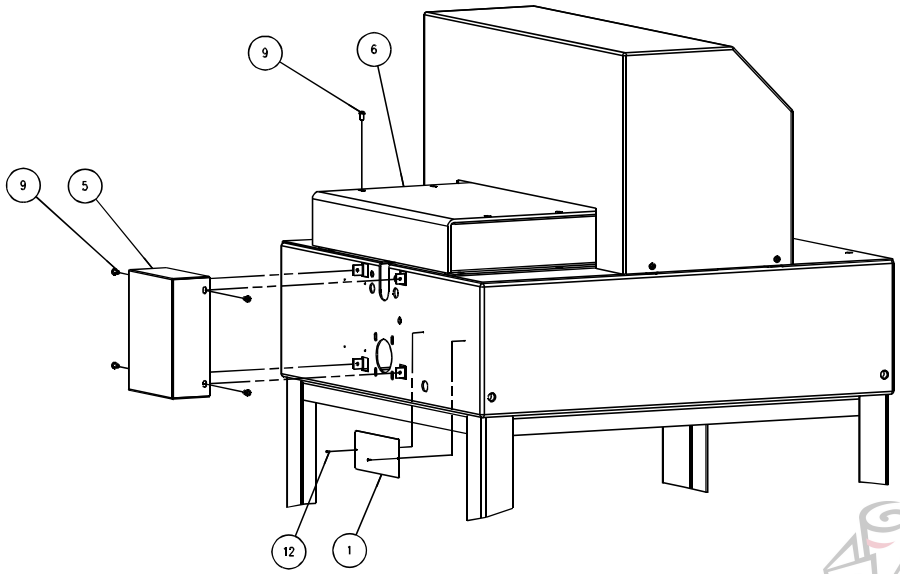
NO.	PART NO.	DESCRIPTION	QTY
1	41130	PLATE - SERIAL NUMBER	1
2	63034	TOP COVER - 185SA	1
3	63048	BOTTOM COVER	1
4	63050	STAND	1
5	63209	ENCODER COVER	1
6	63217	REAR TABLE COVER	1
7	EE-3164	DISPLAY ASM - DIGITAL	1
8	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	5
9	H-6910-404SS	SCREW - 1/4-20 X 1/2 BUT. HEAD CAP STAINLESS	9
10	H-6910-63203SS	SCREW - #6-32 X 3/8 BUT. HEAD CAP STAINLESS	4
11	H-6918-604	SCREW - 3/8-16 X 1/2 SOCKET HEAD CAP	4
12	H-6924-004	SCREW - #0 X 1/4 DRIVE SCREW	2
13	S-1781-50	LABEL - ELECTRIC SHOCK	2
14	S-1781-125	LABEL - KNIFE ADJUST	1
15	S-1781-131	LABEL - TOP COVER	1
16	S-1781-149	FRONT LABEL	1

MyBinding.com
When Image Matters.

4.20 Main Asm. – Covers and Labels (Models: A, 120/230V, 50/60 Hz)

63000 Sheet 9





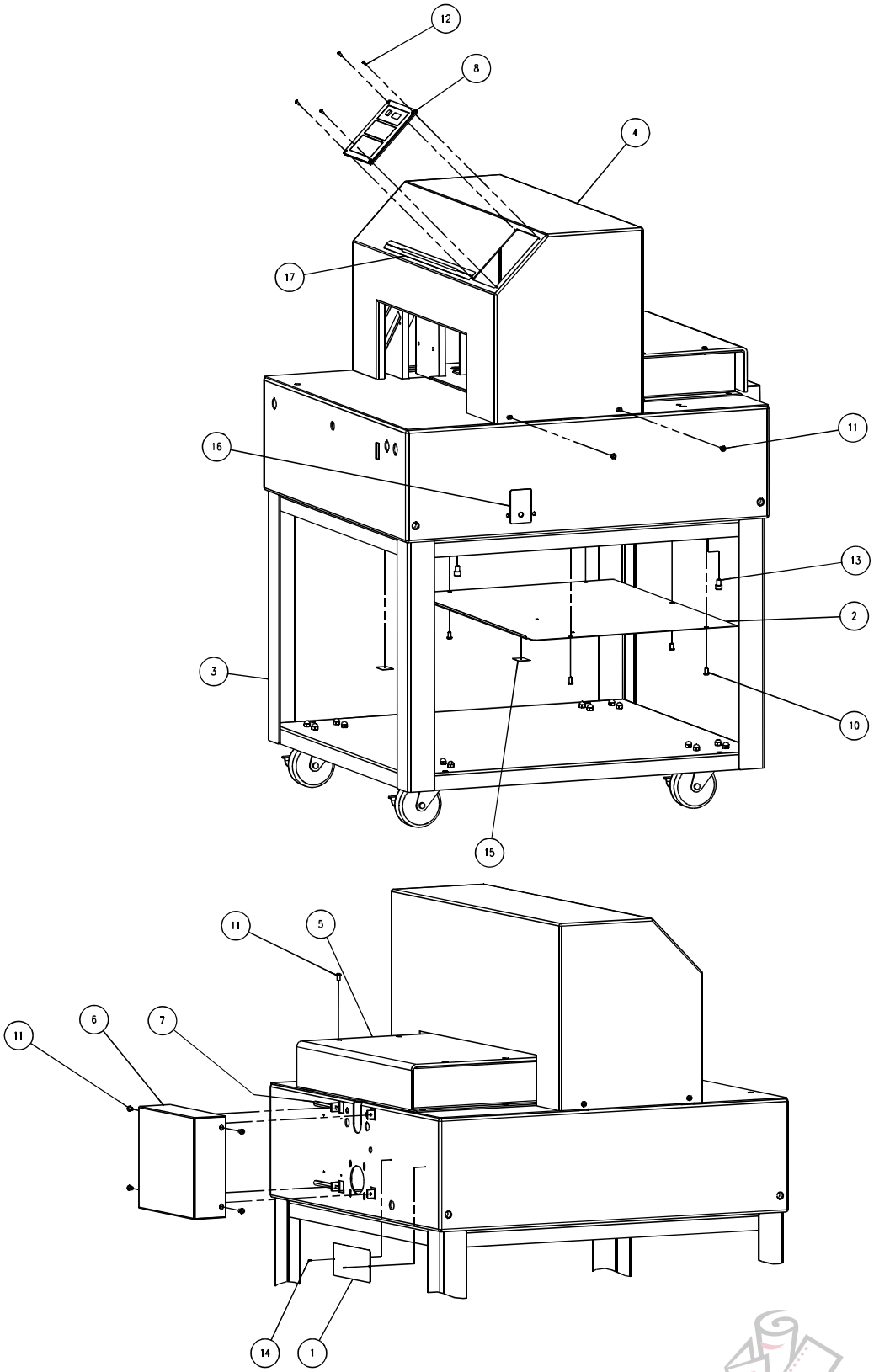
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	41130	PLATE - SERIAL NUMBER	1
2	63048	BOTTOM COVER	1
3	63050	STAND	1
4	63077	TOP COVER - 185A/185AEP	1
5	63209	ENCODER COVER	1
6	63217	REAR TABLE COVER	1
7	EE-3158	DISPLAY ASM - DIGITAL	1
8	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	5
9	H-6910-404SS	SCREW - 1/4-20 X 1/2 BUT. HEAD CAP STAINLESS	9
10	H-6910-63203SS	SCREW - #6-32 X 3/8 BUT. HEAD CAP STAINLESS	4
11	H-6918-604	SCREW - 3/8-16 X 1/2 SOCKET HEAD CAP	4
12	H-6924-004	SCREW - #0 X 1/4 DRIVE SCREW	2
13	S-1781-50	LABEL - ELECTRIC SHOCK	2
14	S-1781-125	LABEL - KNIFE ADJUST	1
15	S-1781-149	FRONT LABEL	1

MyBinding.com
When Image Matters.

4.21 Main Asm. – Covers & Labels (Models: AEP, 120/230V, 50/60 Hz)

63000 Sheet 9



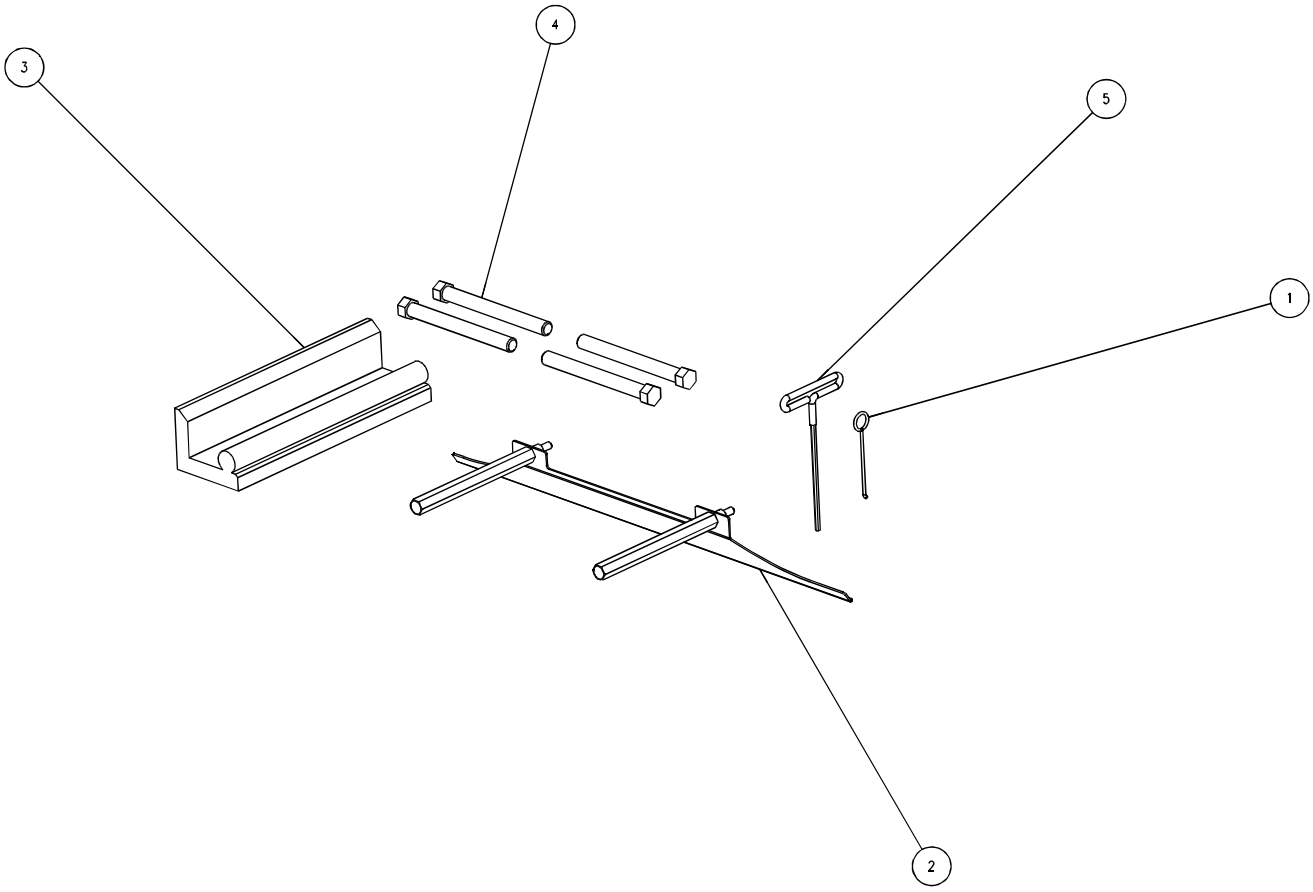
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	41130	PLATE - SERIAL NUMBER	1
2	63048	BOTTOM COVER	1
3	63050	STAND	1
4	63077	TOP COVER - 185A/185AEP	1
5	63217	REAR TABLE COVER	1
6	63209-1	ENCODER COVER, 185AEP	1
7	E-1152-92	STANDOFF	2
8	EE-3157	DISPLAY ASM - PROGRAMMABLE	1
9	EE-3158	DISPLAY ASM - DIGITAL	1
10	H-6910-404	SCREW - 1/4-20 X 1/2 BUTTON HEAD CAP	5
11	H-6910-404SS	SCREW - 1/4-20 X 1/2 BUT. HEAD CAP STAINLESS	9
12	H-6910-63203SS	SCREW - #6-32 X 3/8 BUT. HEAD CAP STAINLESS	4
13	H-6918-604	SCREW - 3/8-16 X 1/2 SOCKET HEAD CAP	4
14	H-6924-004	SCREW - #0 X 1/4 DRIVE SCREW	2
15	S-1781-50	LABEL - ELECTRIC SHOCK	2
16	S-1781-125	LABEL - KNIFE ADJUST	1
17	S-1781-149	FRONT LABEL	1

MyBinding.com
When Image Matters.

4.22 Main Asm. – Accessories (All Models)

63000 Sheet 10



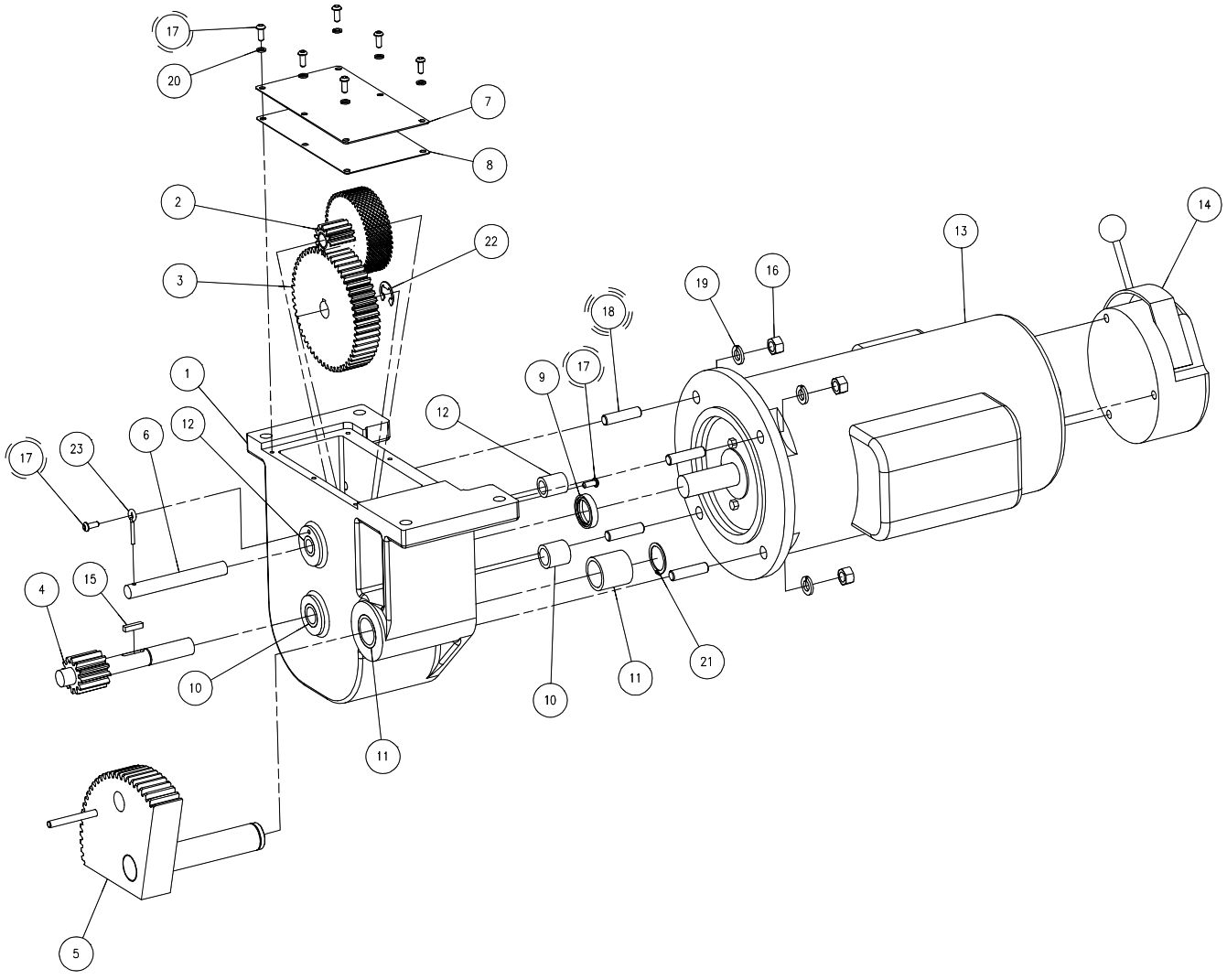
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	5064	CUT STICK PULLER	1
2	63073	KNIFE LIFTER ASM	1
3	A-12608-2	JOGGING AID	1
4	H-6913-1048	SCREW - 5/8-11 X 6 HEX HEAD CAP	4
5	W-191	WRENCH - 3/16" T-HANDLE HEX ALLEN	1

MyBinding.com
When Image Matters.

4.23 Motor and Gearbox Assembly (All Models)

63002 Rev. A



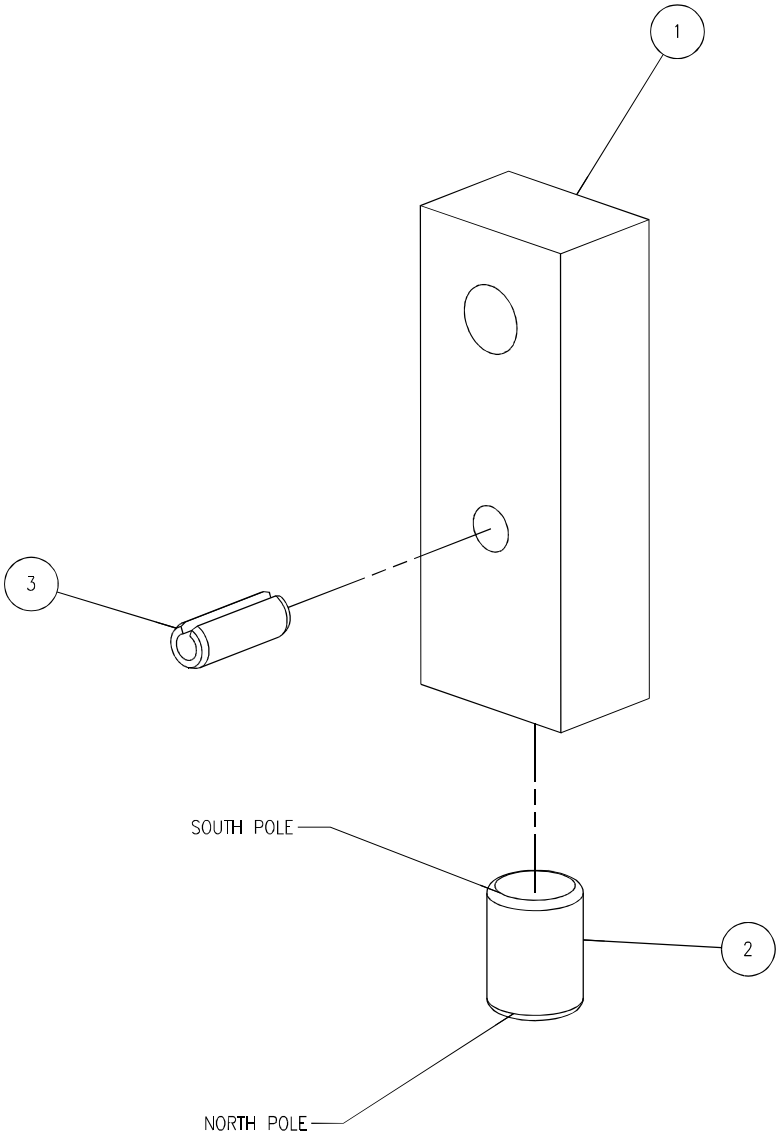
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION	QTY
1	63001	GEARBOX - MACHINED	1
2	63003	REDUCER GEAR	1
3	63004	GEAR - 54T	1
4	63005	GEAR WITH SHAFT	1
5	63009	PULL-DOWN GEAR ASSEMBLY	1
6	63012	PIN	1
7	63013	CAP - GEARBOX	1
8	63014	GASKET - GEARBOX	1
9	63065	OIL SEAL	1
10	A-10172-47	BEARING - SLEEVE	2
11	A-10172-52	BEARING - SLEEVE	2
12	A-10172-54	BEARING - SLEEVE	2
13	E-1600-104	MOTOR	1
14	E-3128-1	BRAKE	1
15	H-6123-30306	MACHINE KEY - .188 X .188 X .750	1
16	H-6417-6	NUT - 3/8-16 HEX	4
17	H-6910-102404	SCREW - #10-24 X 1/2 BUTTON HEAD CAP	8
18	H-6940-624	SCREW - 3/8-16 X 1-1/2 FLAT SOC SET	4
19	H-7327-12	WASHER - 3/8 MEDIUM LOCK	4
20	H-7327-N10	WASHER - #10 MEDIUM LOCK	6
21	S-1073-100	RETAINING RING	1
22	S-1193-62	E-RING - 5/8"	1
23	S-1244-1	LOCK PIN	1

MyBinding.com
When Image Matters.

4.24 Magnet Assembly (All Models)

60052

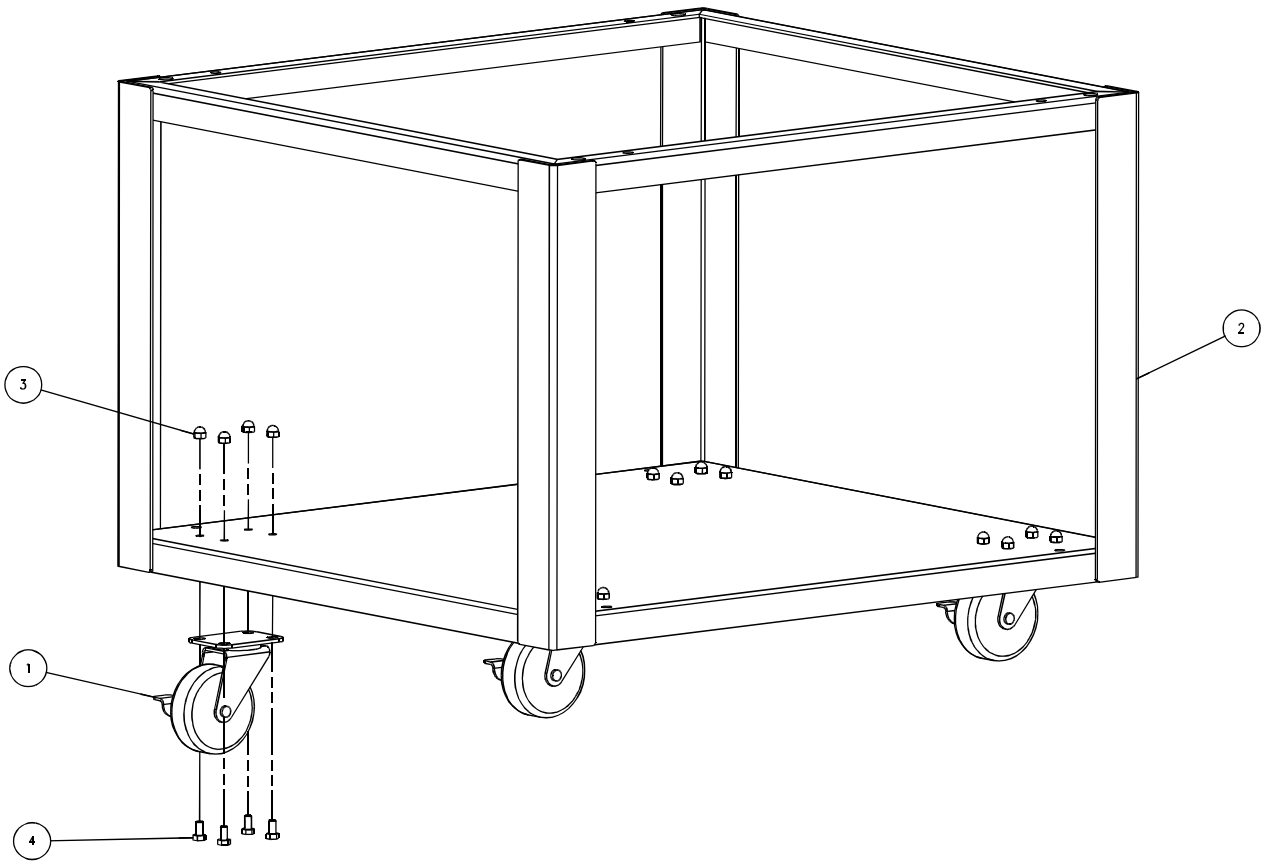


NO.	PART NO.	DESCRIPTION	QTY
1	60046	BLOCK - HOOD HANDLE	1
2	60053	MAGNET - RARE EARTH	1
3	H-21S-187-0500	ROLL PIN - 3/16 X 1/2	1

MyBinding.com When Image Matters.

4.25 Floor Stand Assembly (All Models)

63050, Rev. A

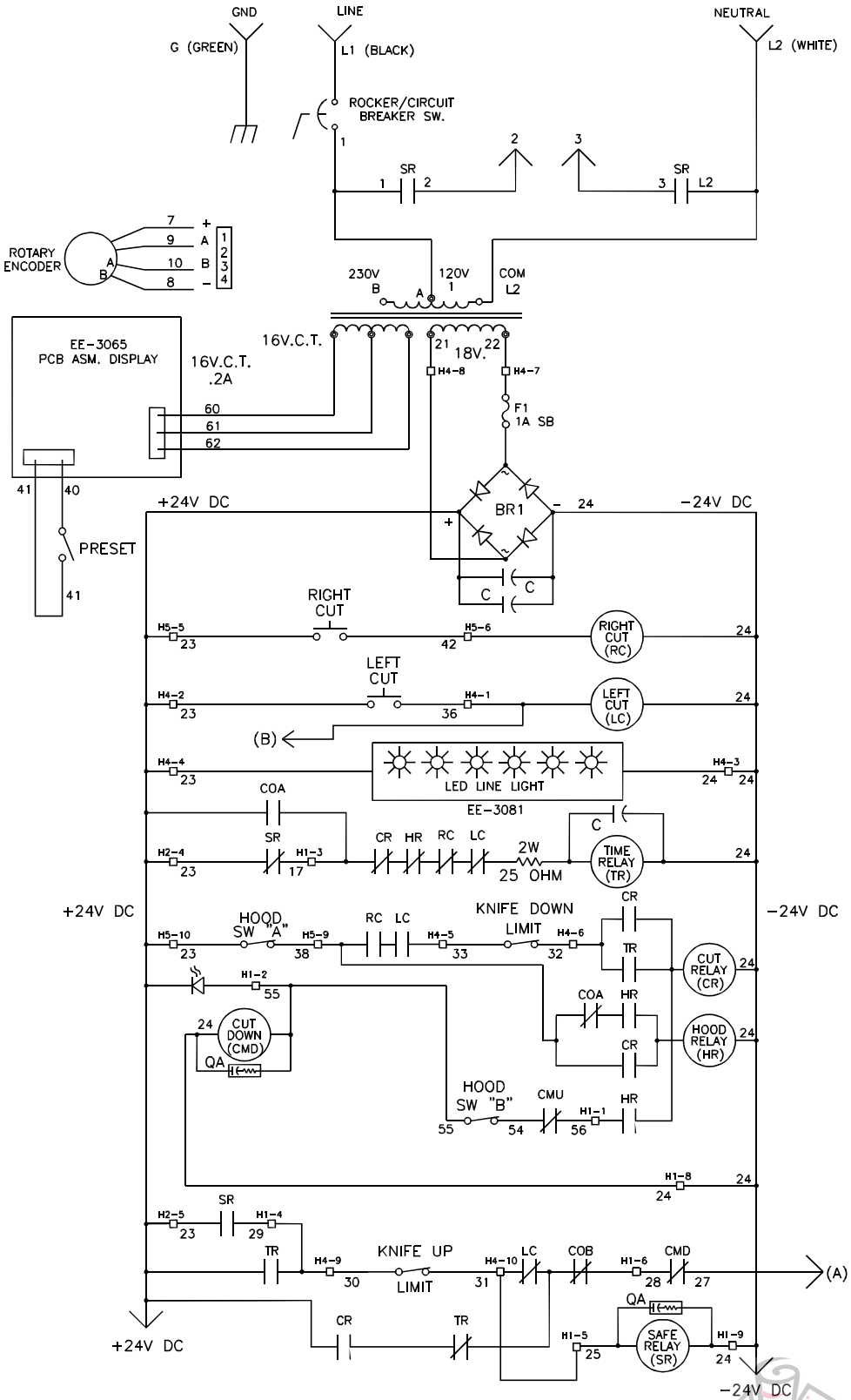


NO.	PART NO.	DESCRIPTION	QTY
1	41014	SWIVEL CASTER WITH BRAKE	4
2	63051	STAND WELDMENT	1
3	H-6431-5	NUT - 5/16-18 ACORN CAP	16
4	H-6913-505	SCREW - 5/16-18 X 5/8 HEX HEAD CAP	16

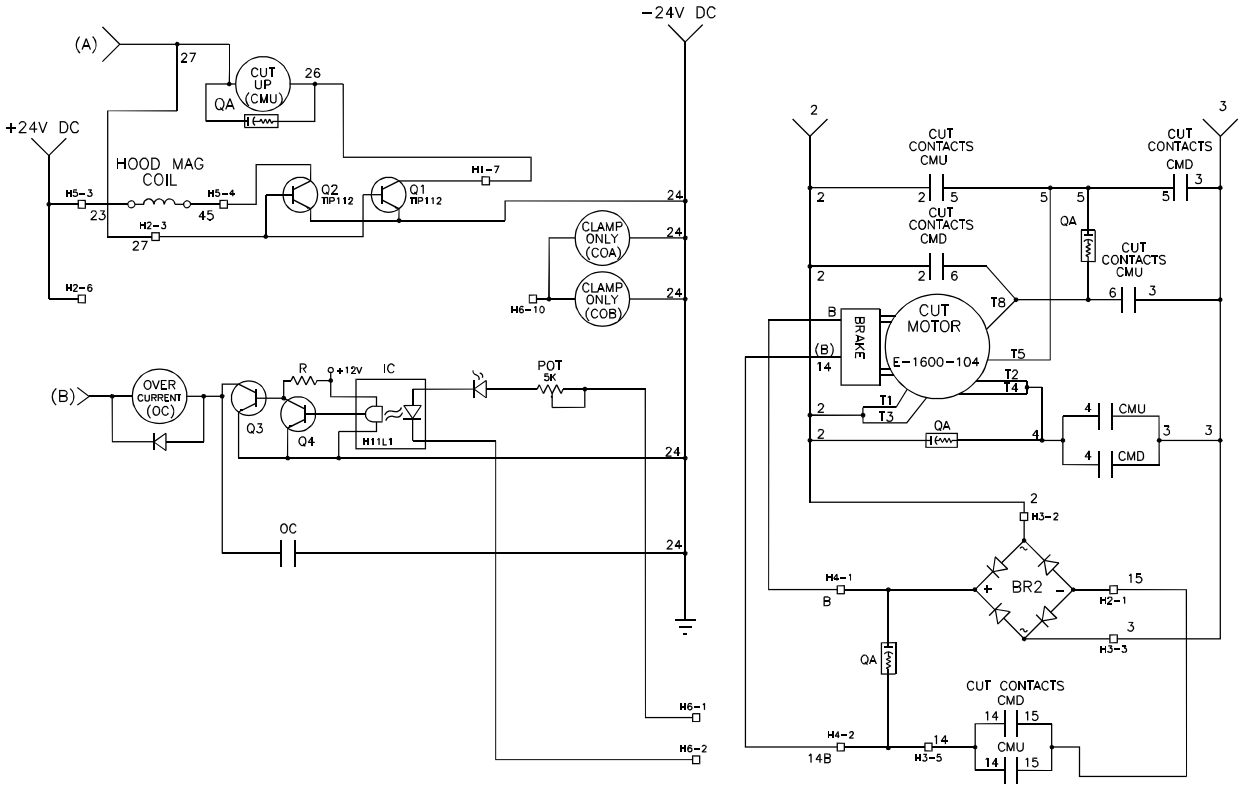
MyBinding.com When Image Matters.

4.26 Electrical Schematic (Models: SA, 120V, 60 Hz)

E-3148-1



MyBinding.com When Image Matters.

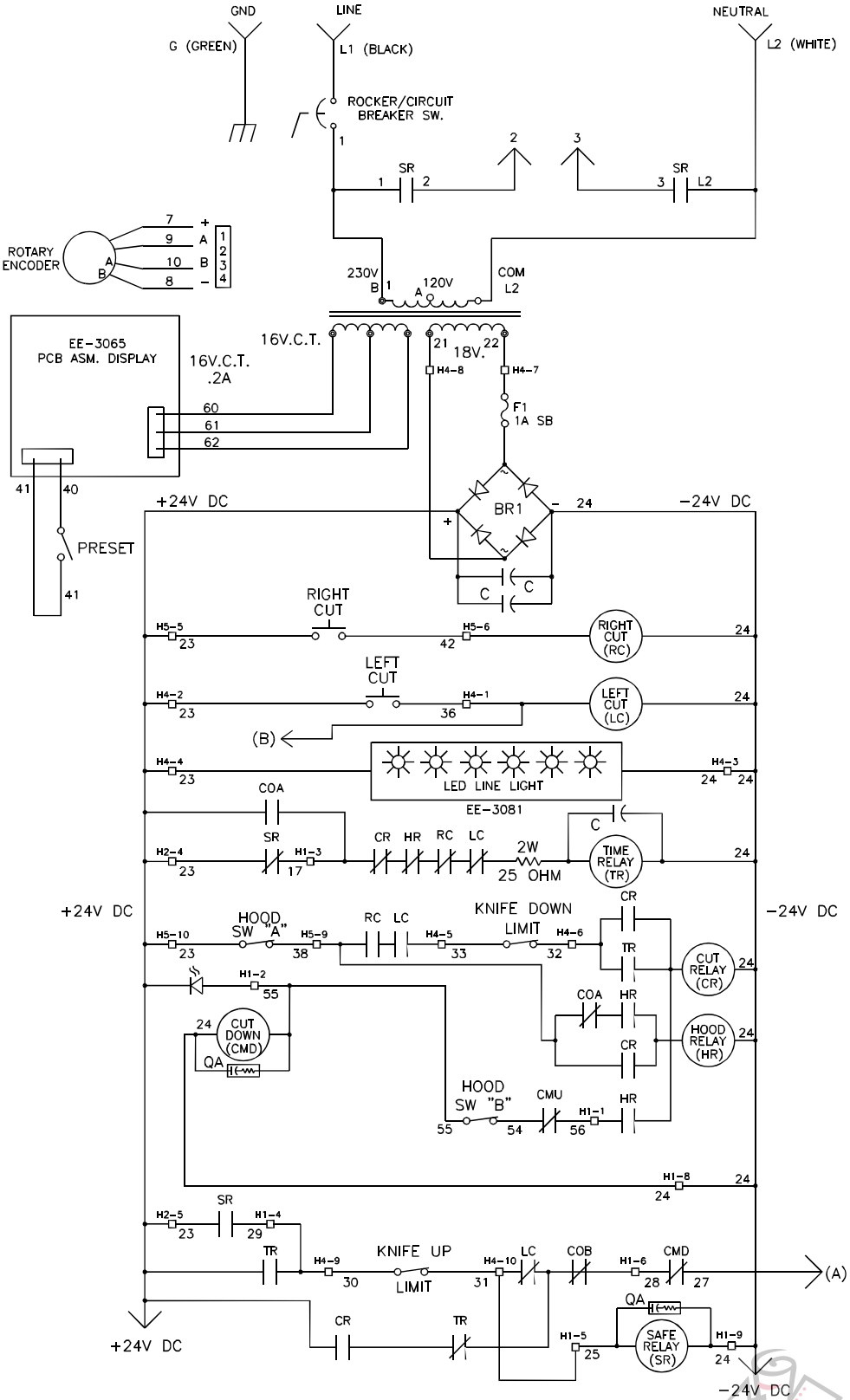


RELAY	SYM	RELAY MOUNTING	
		P.C.B.	PANEL
RIGHT CUT SWITCH RELAY	RC	X	
RIGHT CUT SWITCH RELAY	LC	X	
CUT RELAY	CR	X	
TIMING RELAY	TR	X	
HOOD SWITCH RELAY	HR	X	
SAFETY RELAY	SR		X
CUT MOTOR DOWN RELAY	CMD		X
CUT MOTOR UP RELAY	CMU		X
OVER CURRENT RELAY	OC	X	
CLAMP ONLY RELAY (FGR)	COA	X	
CLAMP ONLY RELAY (CUBE)	COB	X	

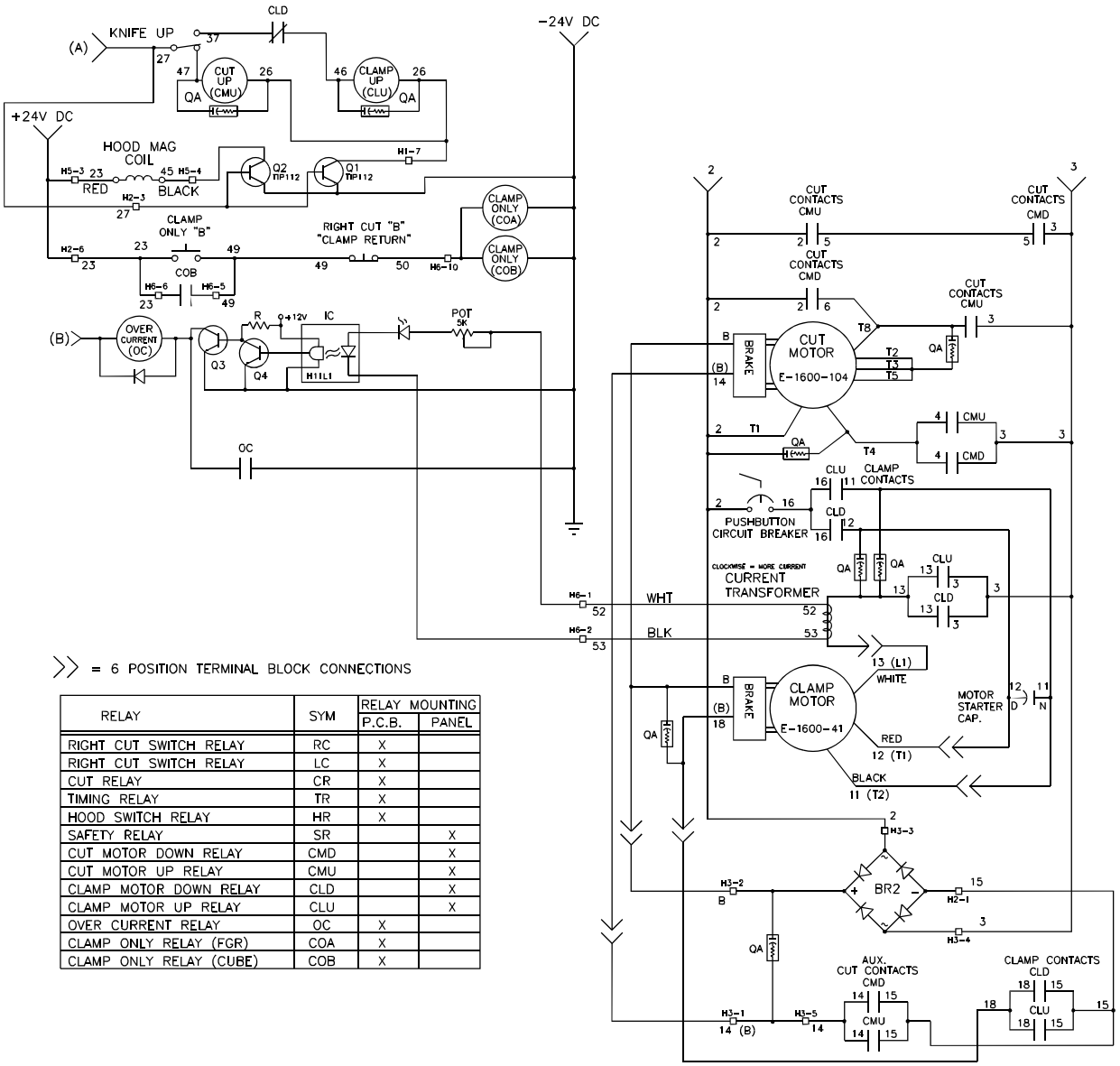
MyBinding.com
When Image Matters.

4.27 Electrical Schematic (Models: SA, 230V, 50/60 Hz)

E-3148-2



MyBinding.com When Image Matters.

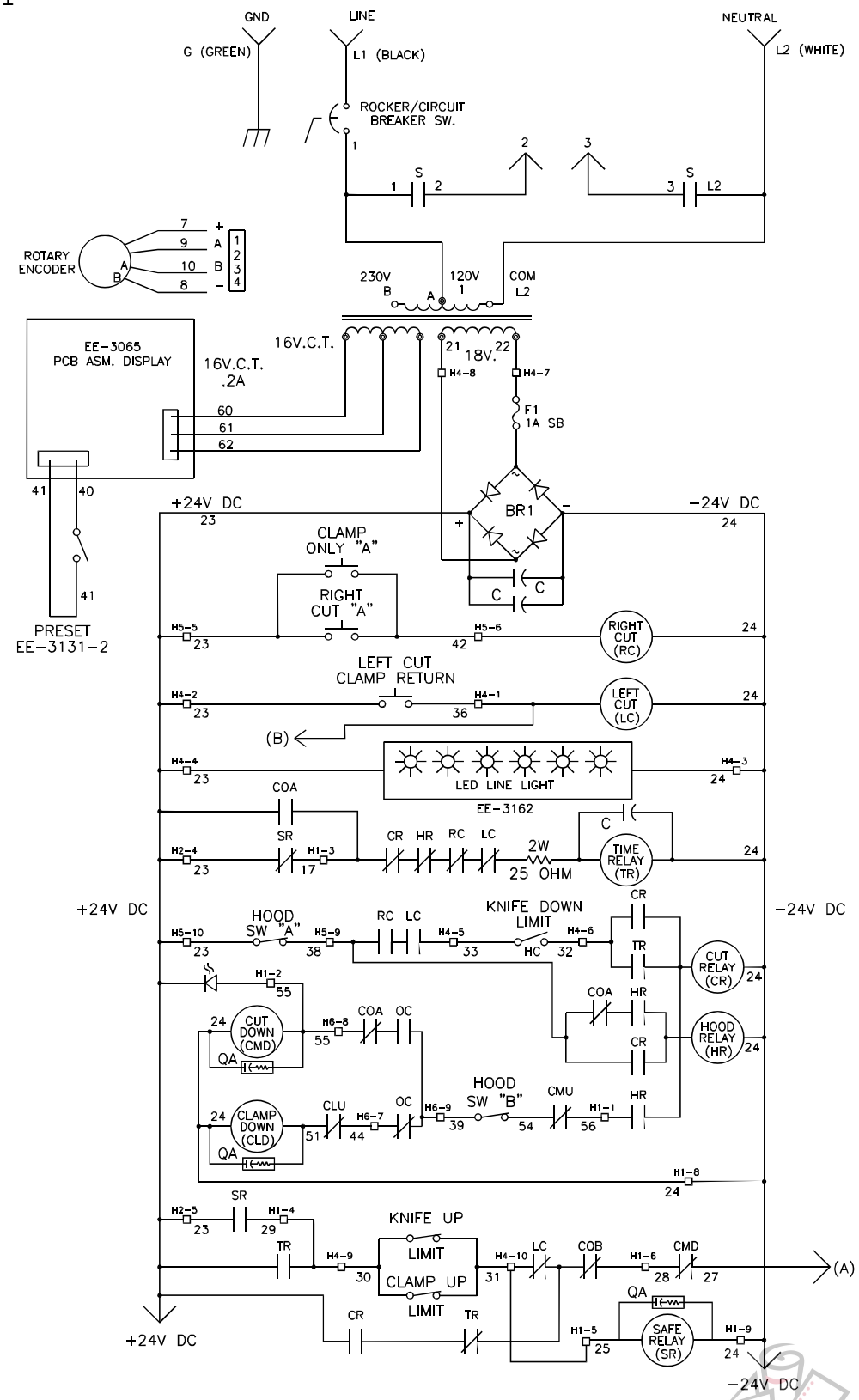


RELAY	SYM	RELAY MOUNTING	
		P.C.B.	PANEL
RIGHT CUT SWITCH RELAY	RC	X	
RIGHT CUT SWITCH RELAY	LC	X	
CUT RELAY	CR	X	
TIMING RELAY	TR	X	
HOOD SWITCH RELAY	HR	X	
SAFETY RELAY	SR		X
CUT MOTOR DOWN RELAY	CMD		X
CUT MOTOR UP RELAY	CMU		X
CLAMP MOTOR DOWN RELAY	CLD		X
CLAMP MOTOR UP RELAY	CLU		X
OVER CURRENT RELAY	OC	X	
CLAMP ONLY RELAY (FGR)	COA	X	
CLAMP ONLY RELAY (CUBE)	COB	X	

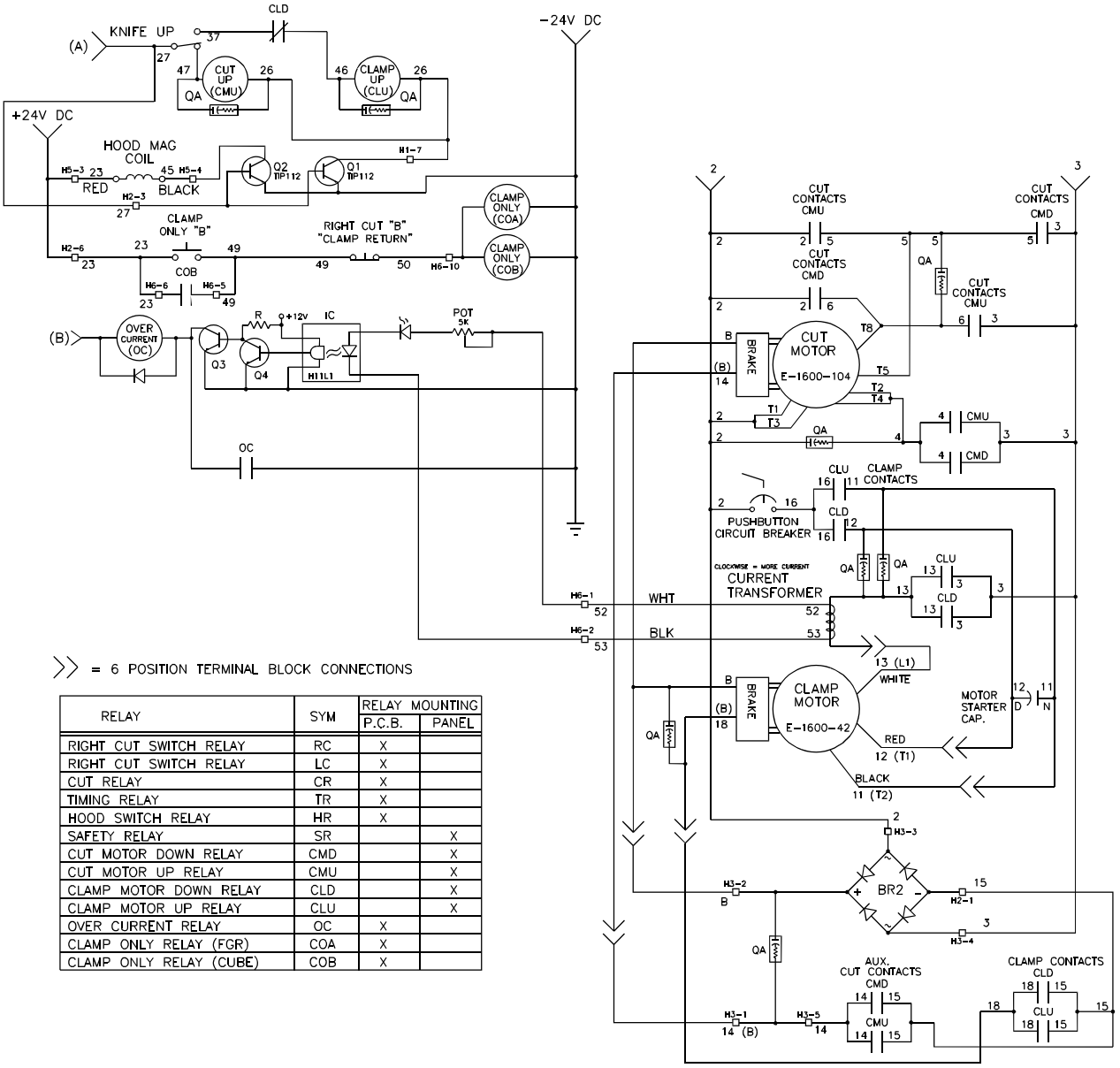
MyBinding.com
When Image Matters.

4.28 Electrical Schematic (Models: A, 120V, 60 Hz)

E-3147-1



MyBinding.com When Image Matters.

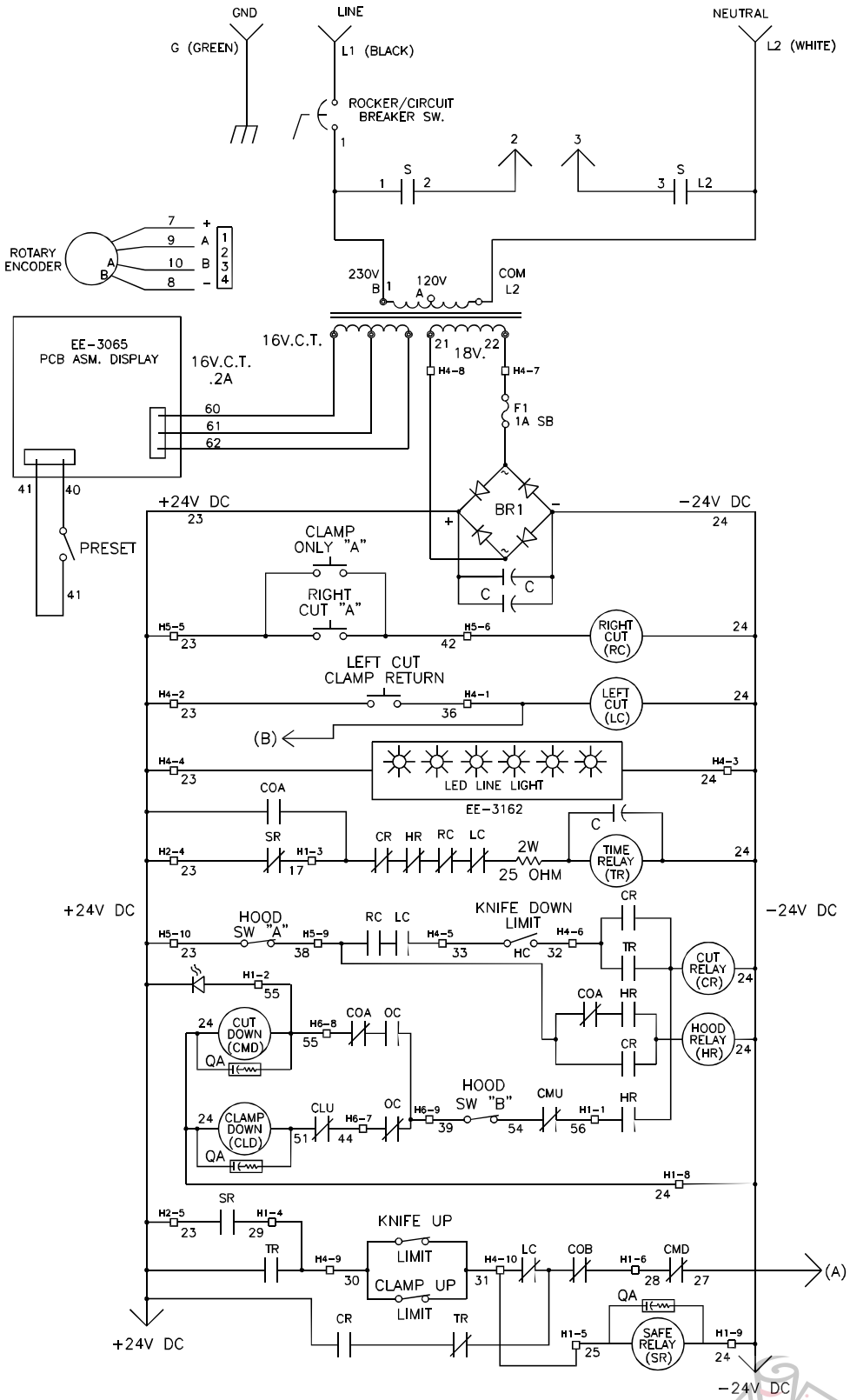


RELAY	SYM	RELAY MOUNTING	
		P.C.B.	PANEL
RIGHT CUT SWITCH RELAY	RC	X	
RIGHT CUT SWITCH RELAY	LC	X	
CUT RELAY	CR	X	
TIMING RELAY	TR	X	
HOOD SWITCH RELAY	HR	X	
SAFETY RELAY	SR		X
CUT MOTOR DOWN RELAY	CMD		X
CUT MOTOR UP RELAY	CMU		X
CLAMP MOTOR DOWN RELAY	CLD		X
CLAMP MOTOR UP RELAY	CLU		X
OVER CURRENT RELAY	OC	X	
CLAMP ONLY RELAY (FGR)	COA	X	
CLAMP ONLY RELAY (CUBE)	COB	X	

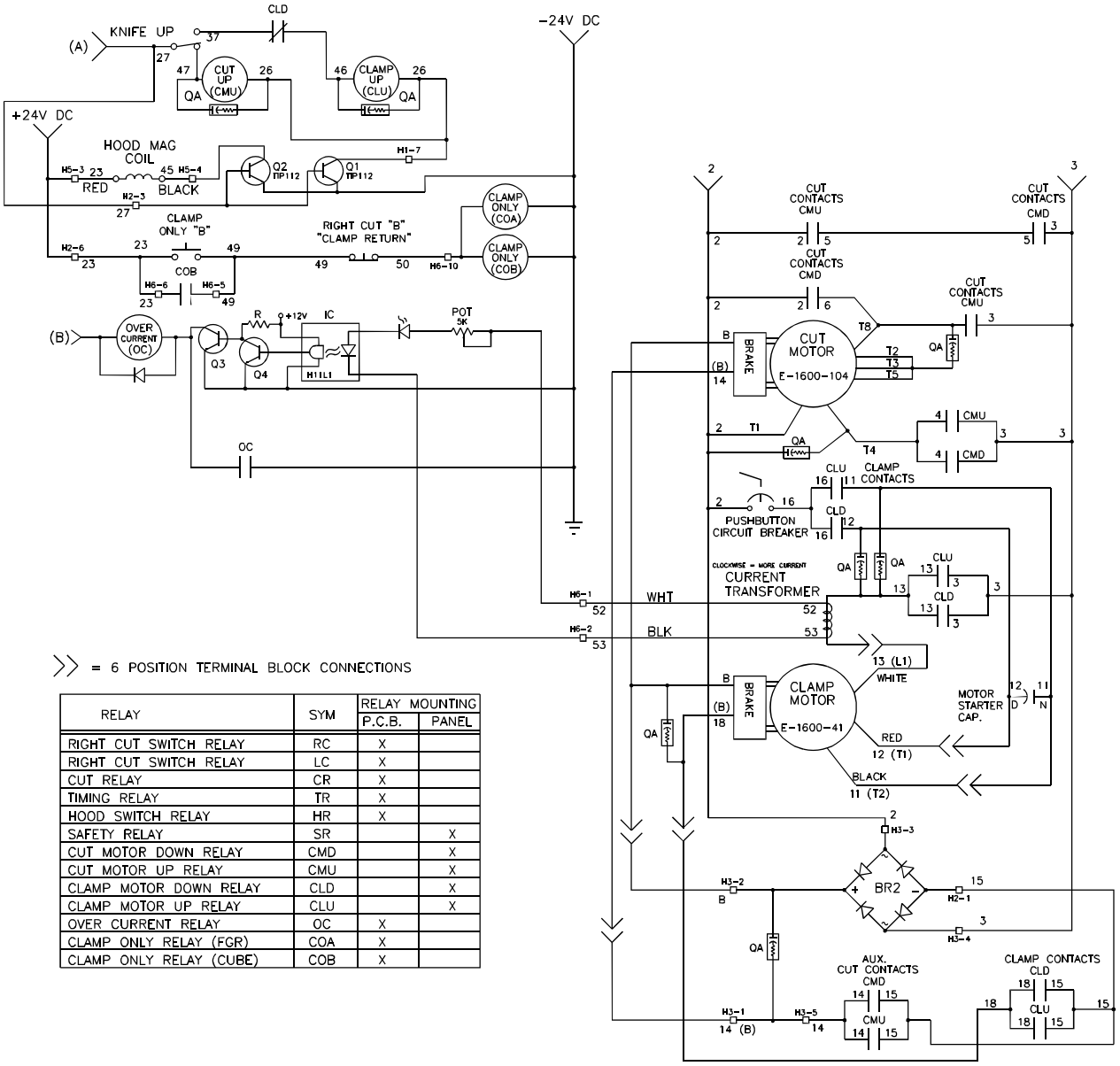
MyBinding.com When Image Matters.

4.29 Electrical Schematic (Models: A, 230V, 50/60 Hz)

E-3147-2



MyBinding.com When Image Matters.

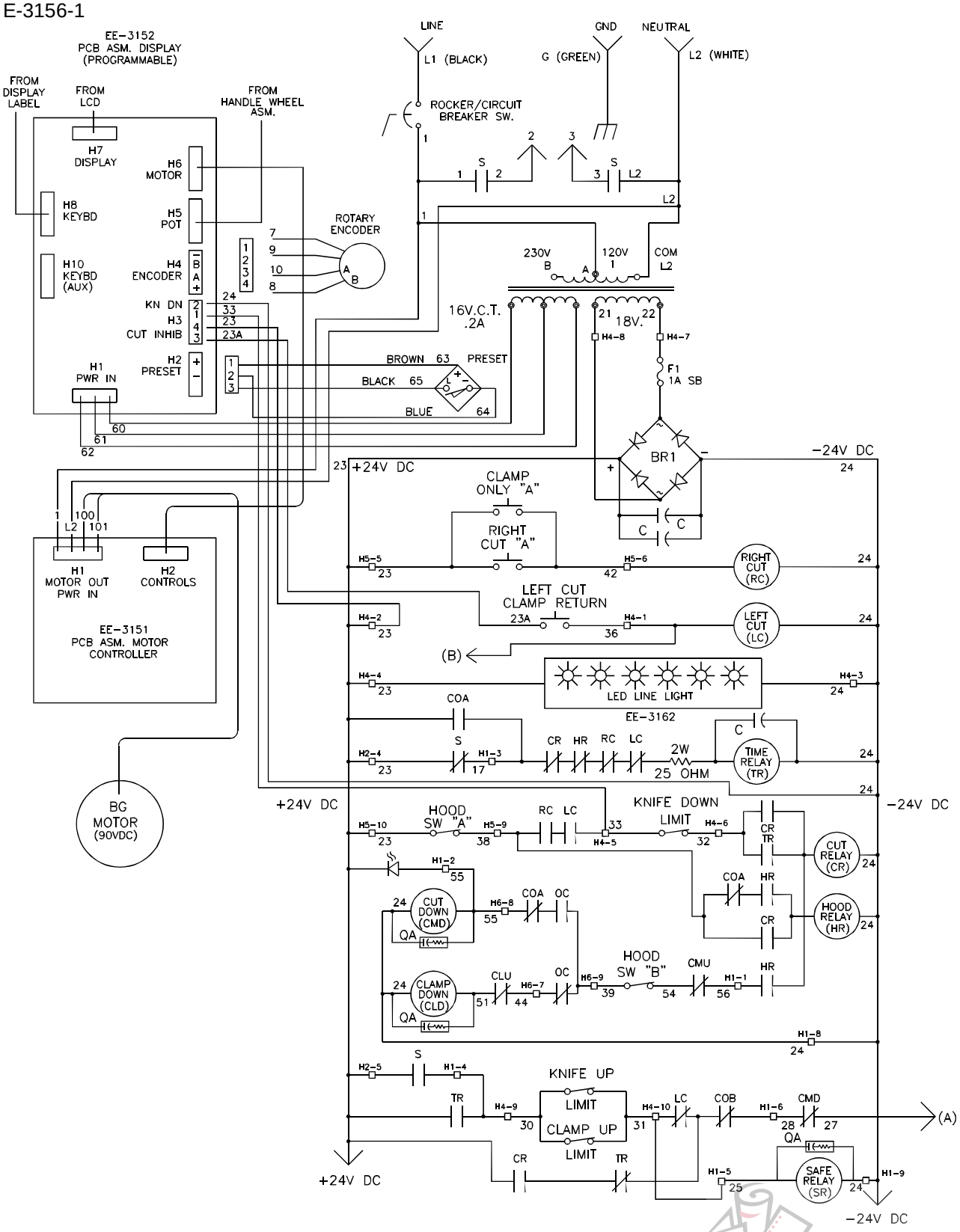


RELAY	SYM	RELAY MOUNTING	
		P.C.B.	PANEL
RIGHT CUT SWITCH RELAY	RC	X	
RIGHT CUT SWITCH RELAY	LC	X	
CUT RELAY	CR	X	
TIMING RELAY	TR	X	
HOOD SWITCH RELAY	HR	X	
SAFETY RELAY	SR		X
CUT MOTOR DOWN RELAY	CMD		X
CUT MOTOR UP RELAY	CMU		X
CLAMP MOTOR DOWN RELAY	CLD		X
CLAMP MOTOR UP RELAY	CLU		X
OVER CURRENT RELAY	OC	X	
CLAMP ONLY RELAY (FGR)	COA	X	
CLAMP ONLY RELAY (CUBE)	COB	X	

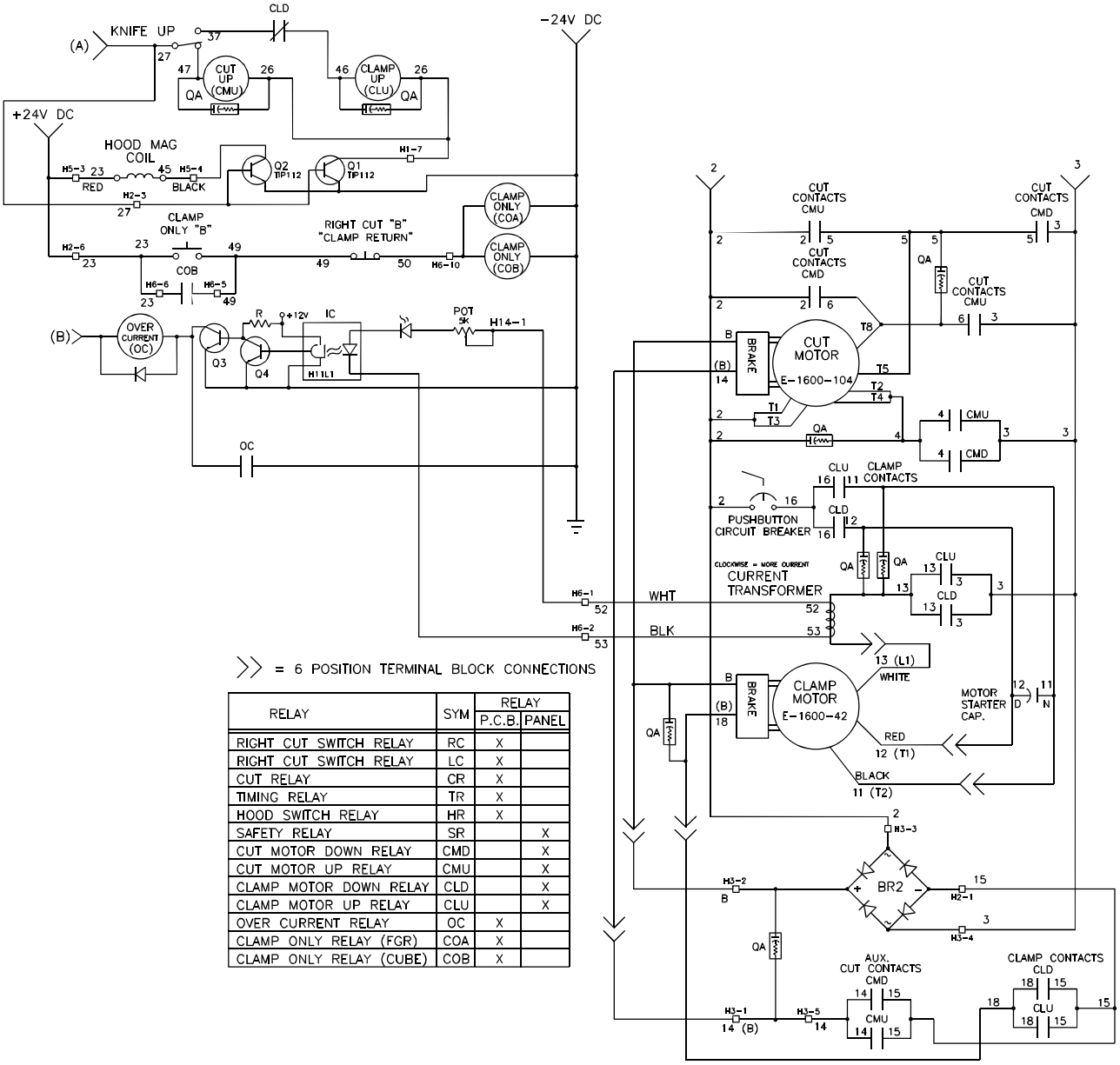
MyBinding.com When Image Matters.

4.30 Electrical Schematic (Models: AEP, 120V, 60 Hz)

E-3156-1



MyBinding.com When Image Matters.

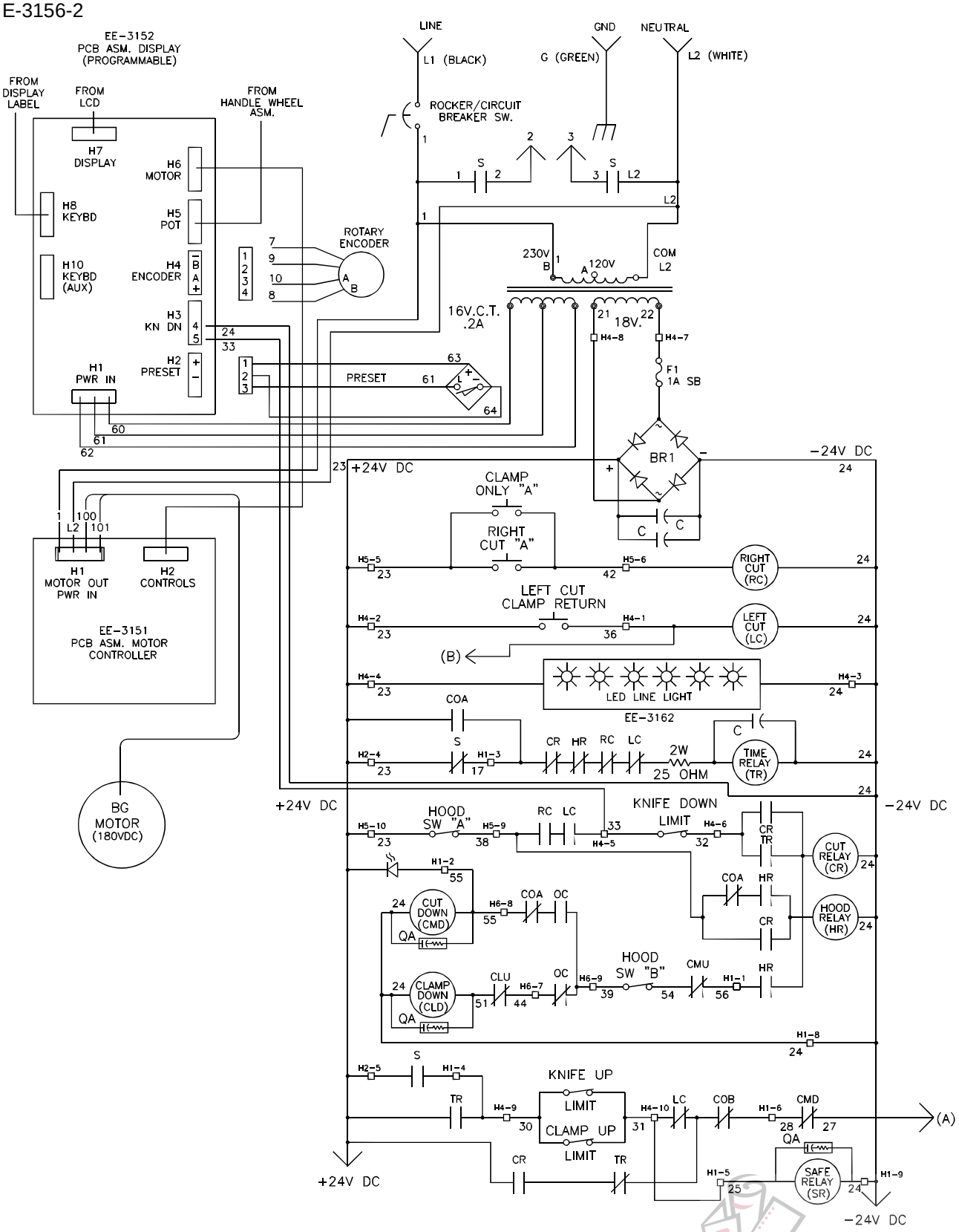


RELAY	SYM	RELAY P.C.B.	RELAY PANEL
RIGHT CUT SWITCH RELAY	RC	X	
RIGHT CUT SWITCH RELAY	LC	X	
CUT RELAY	CR	X	
TIMING RELAY	TR	X	
HOOD SWITCH RELAY	HR	X	
SAFETY RELAY	SR		X
CUT MOTOR DOWN RELAY	CMD		X
CUT MOTOR UP RELAY	CMU		X
CLAMP MOTOR DOWN RELAY	CLD		X
CLAMP MOTOR UP RELAY	CLU		X
OVER CURRENT RELAY	OC	X	
CLAMP ONLY RELAY (FGR)	COA	X	
CLAMP ONLY RELAY (CUBE)	COB	X	

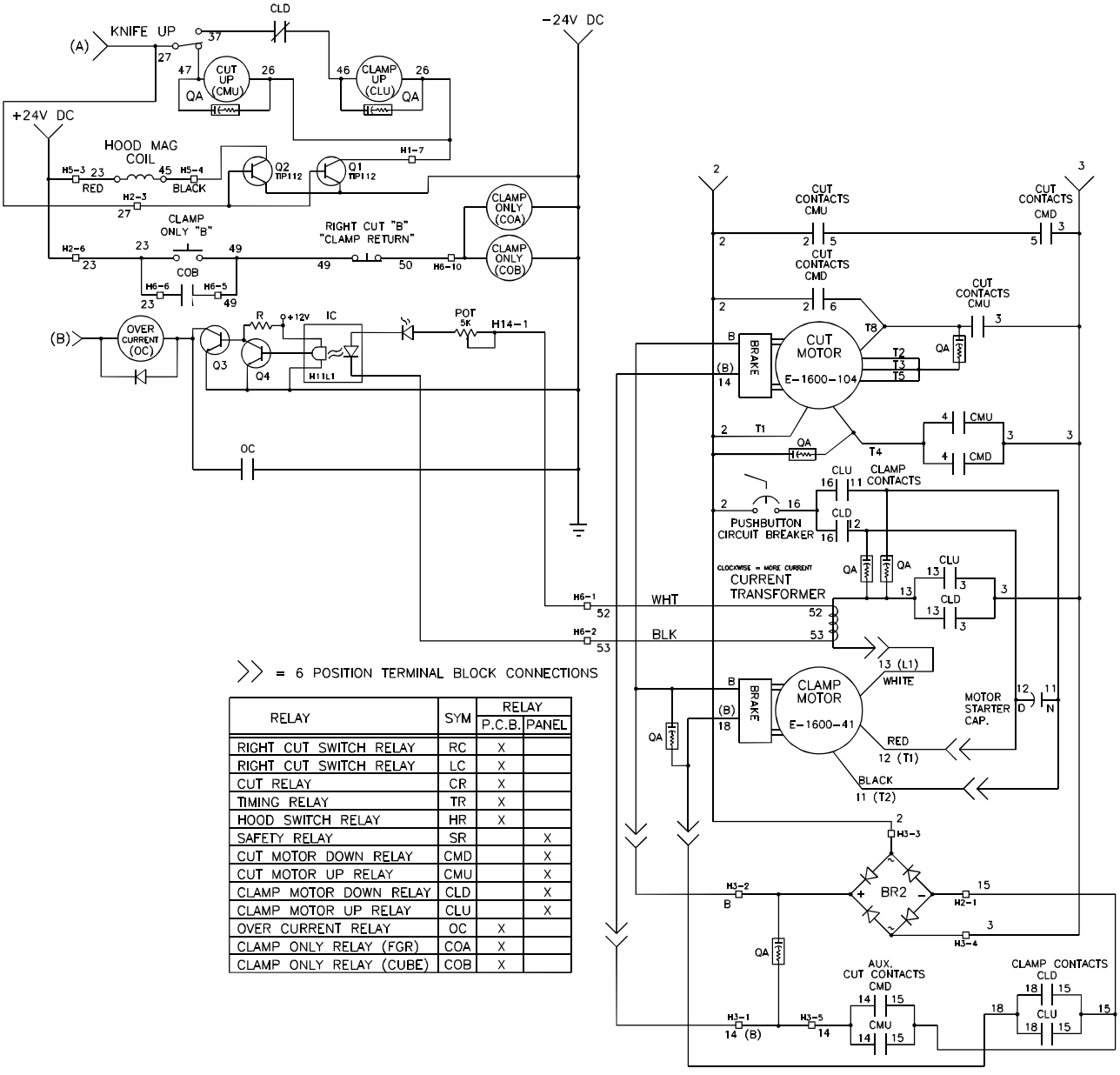
MyBinding.com When Image Matters.

4.31 Electrical Schematic (Models: AEP, 230V, 50/60 Hz)

E-3156-2



MyBinding.com When Image Matters.

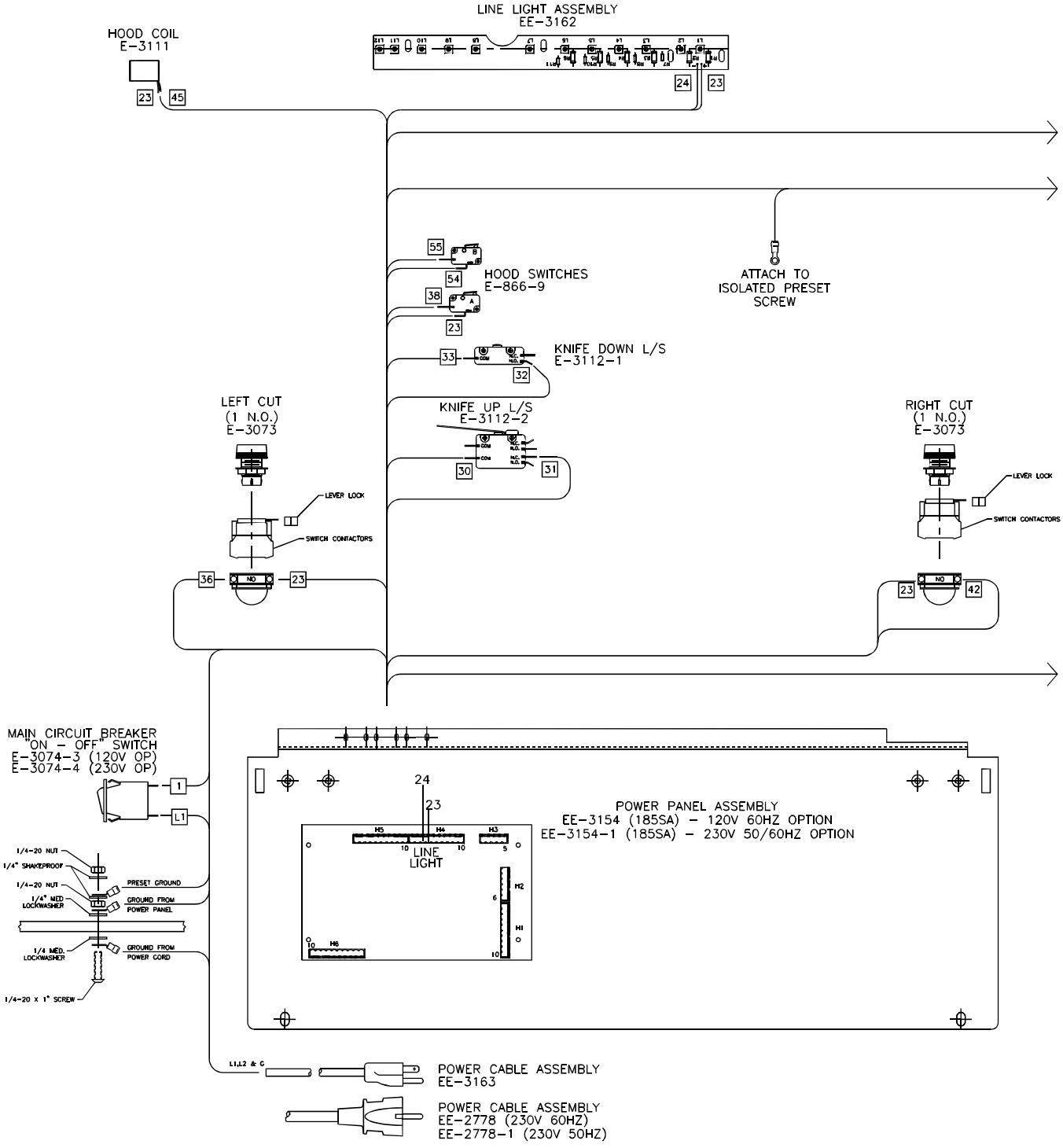


RELAY	SYM	RELAY	
		P.C.B.	PANEL
RIGHT CUT SWITCH RELAY	RC	X	
RIGHT CUT SWITCH RELAY	LC	X	
CUT RELAY	CR	X	
TIMING RELAY	TR	X	
HOOD SWITCH RELAY	HR	X	
SAFETY RELAY	SR		X
CUT MOTOR DOWN RELAY	CMD		X
CUT MOTOR UP RELAY	CMU		X
CLAMP MOTOR DOWN RELAY	CLD		X
CLAMP MOTOR UP RELAY	CLU		X
OVER CURRENT RELAY	OC	X	
CLAMP ONLY RELAY (FGR)	COA	X	
CLAMP ONLY RELAY (CUBE)	COB	X	

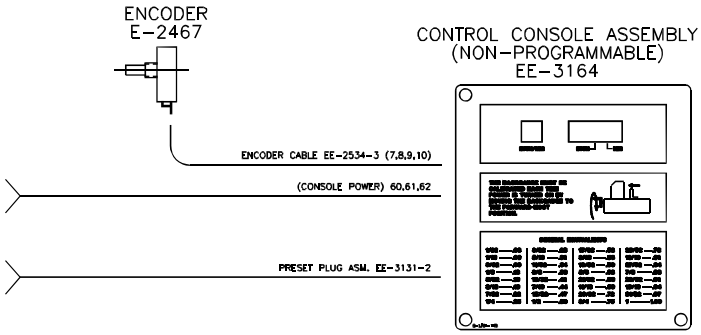
MyBinding.com
When Image Matters.

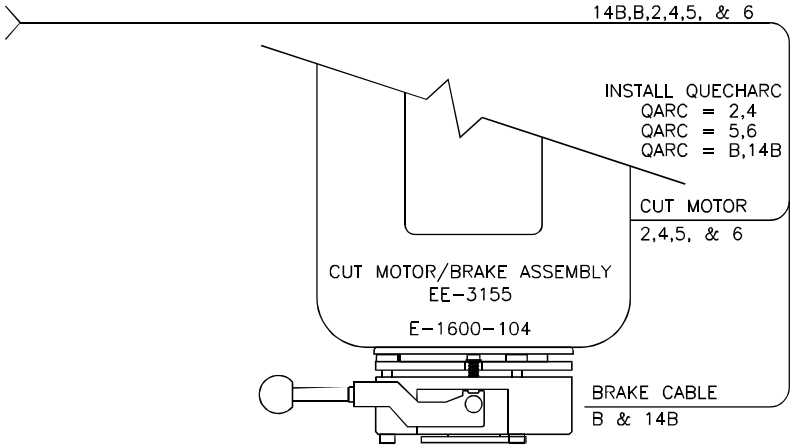
4.32 Elec. Interconnection Diagram (Models: SA, 120/230V, 50/60 Hz)

E-3150-2, Rev. A



MyBinding.com
When Image Matters.

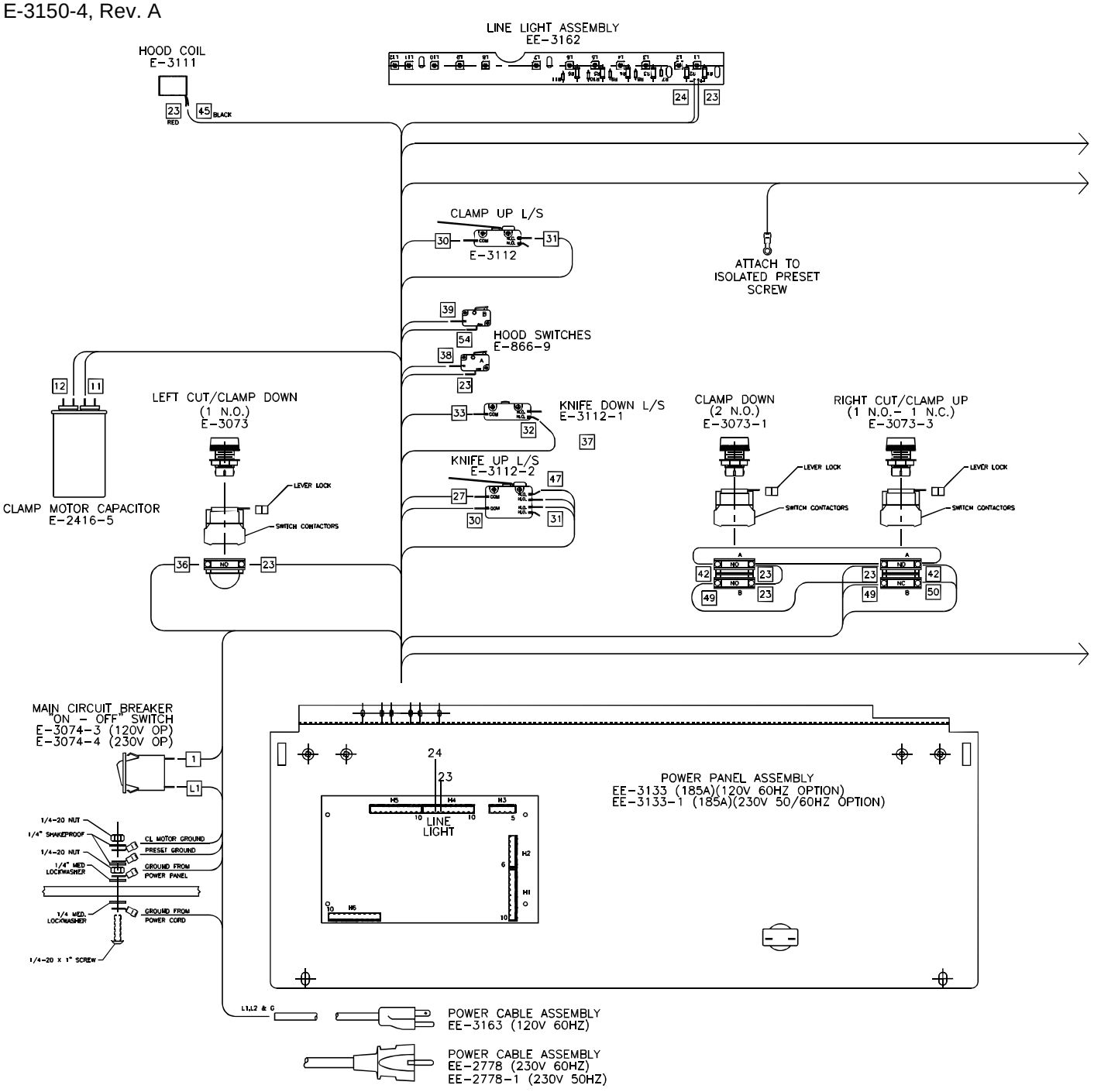




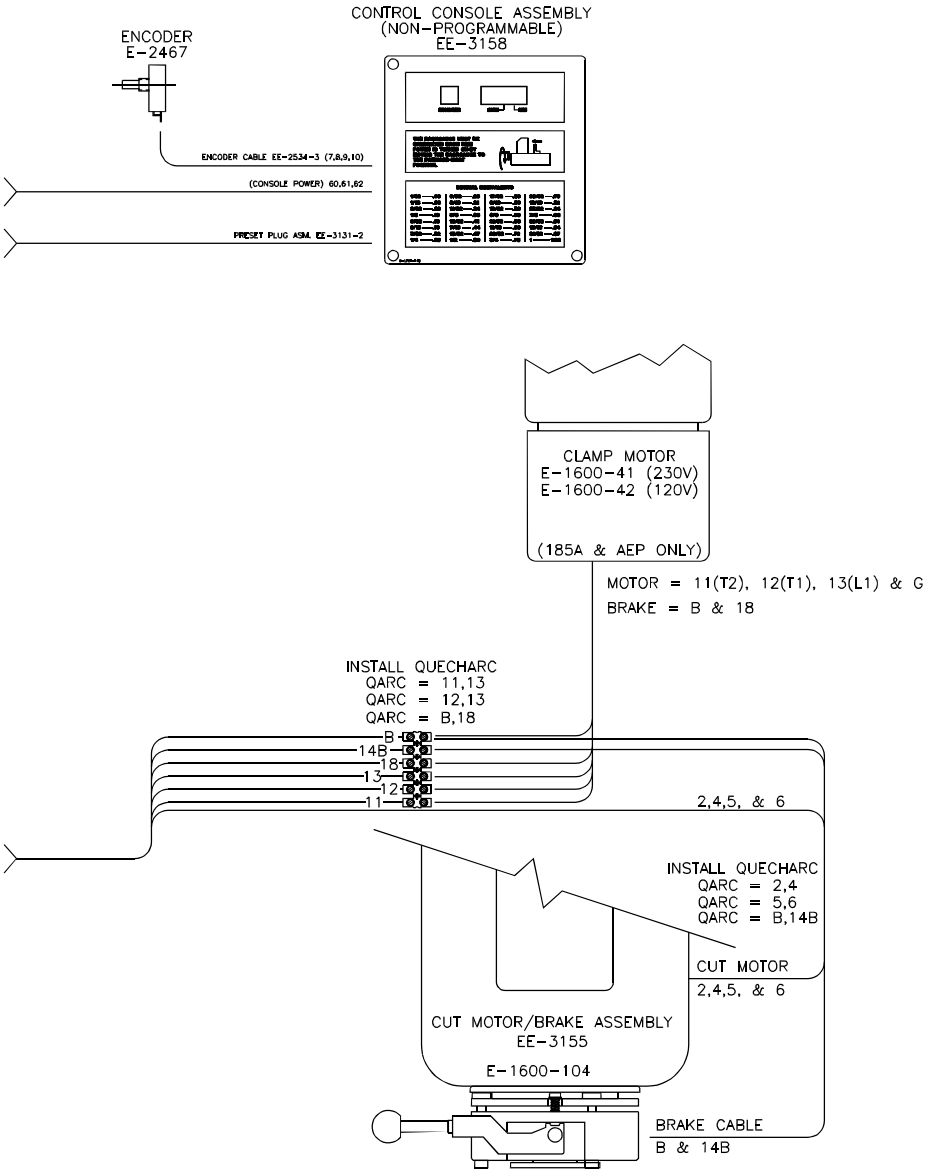
MyBinding.com
When Image Matters.

4.33 Elec. Interconnection Diagram (Models: A, 120/230V, 50/60 Hz)

E-3150-4, Rev. A



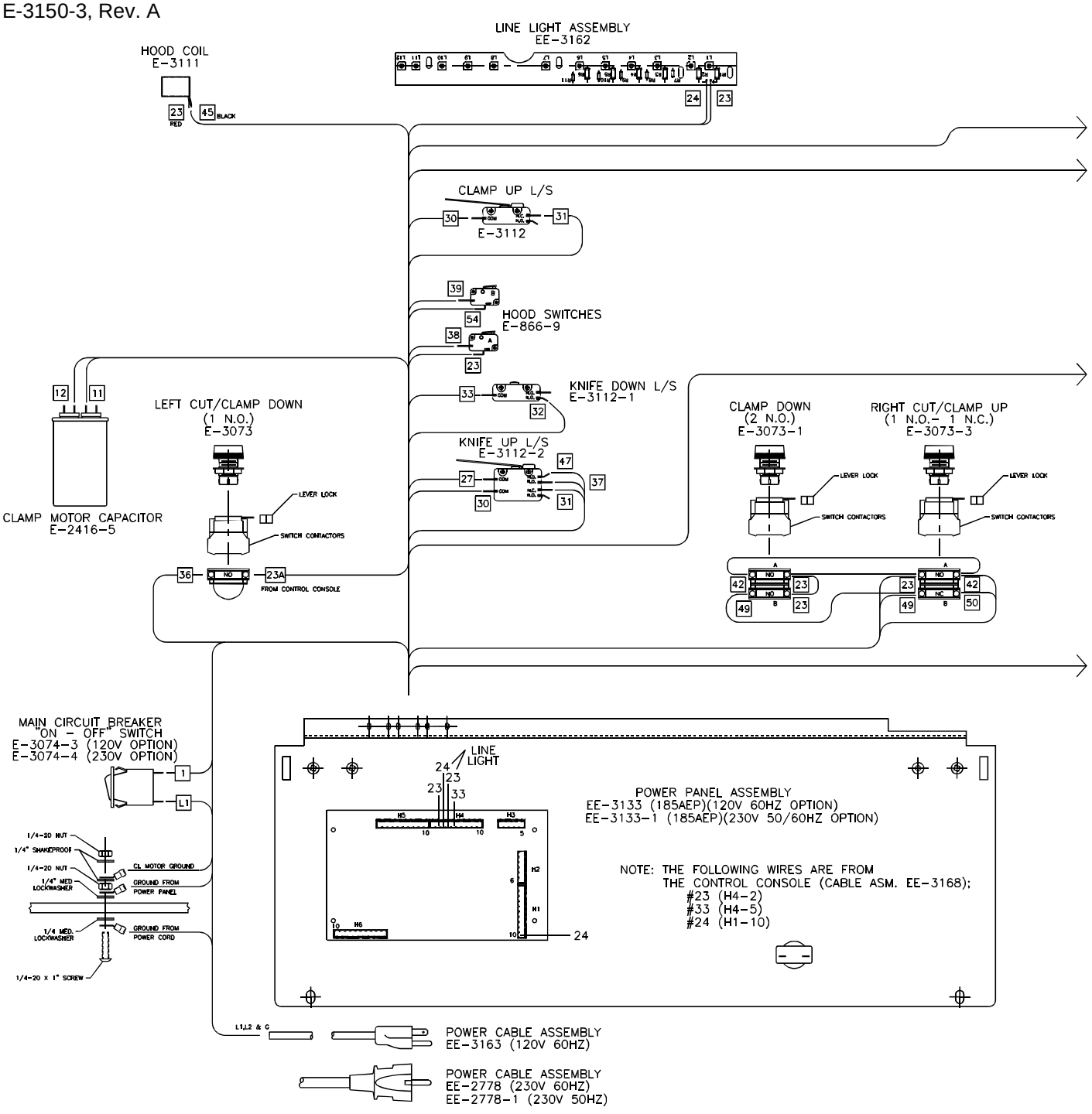
MyBinding.com
When Image Matters.



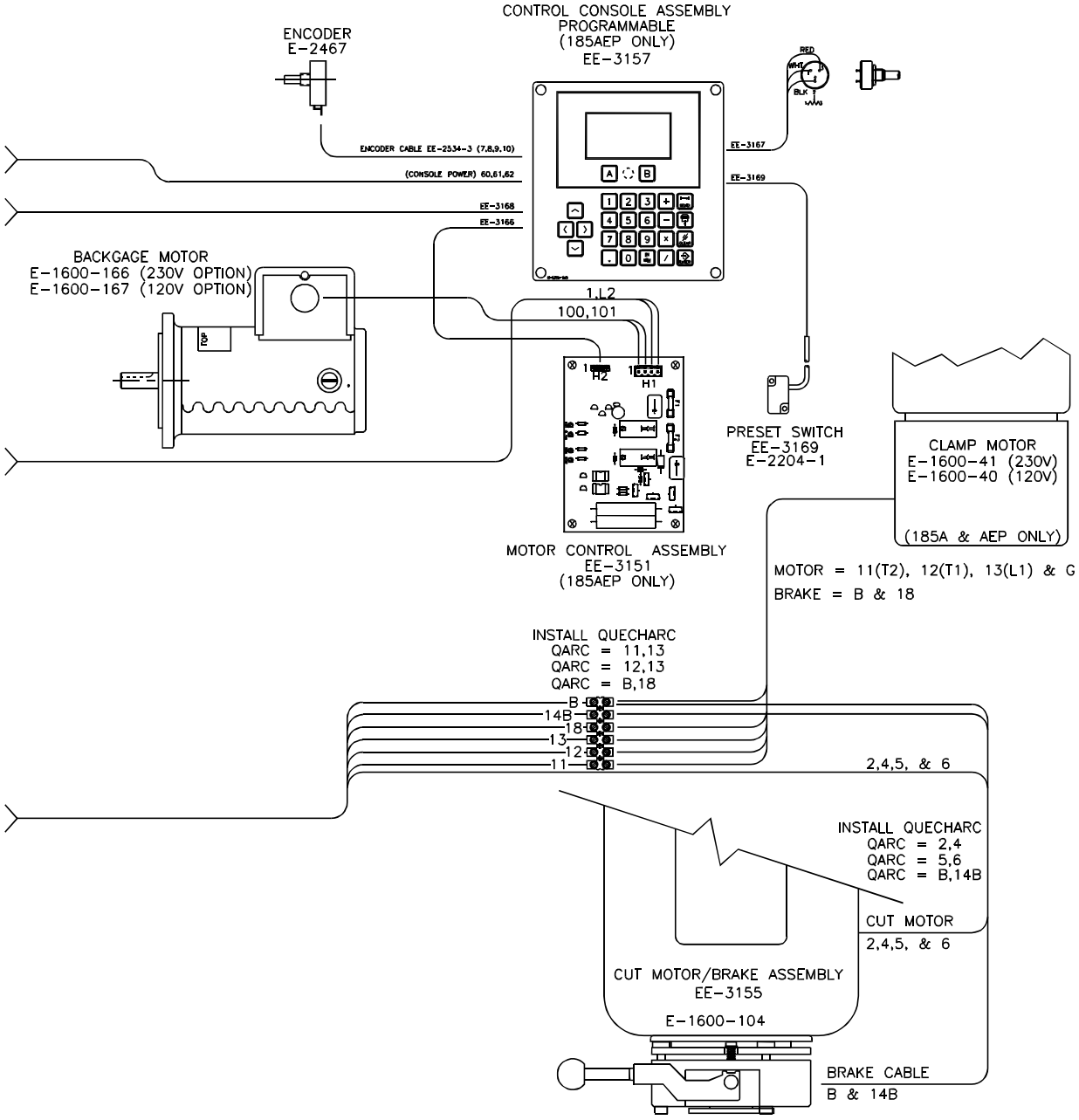
MyBinding.com
When Image Matters.

4.34 Elec. Interconnection Diagram (Models: AEP, 120/230V, 50/60 Hz)

E-3150-3, Rev. A



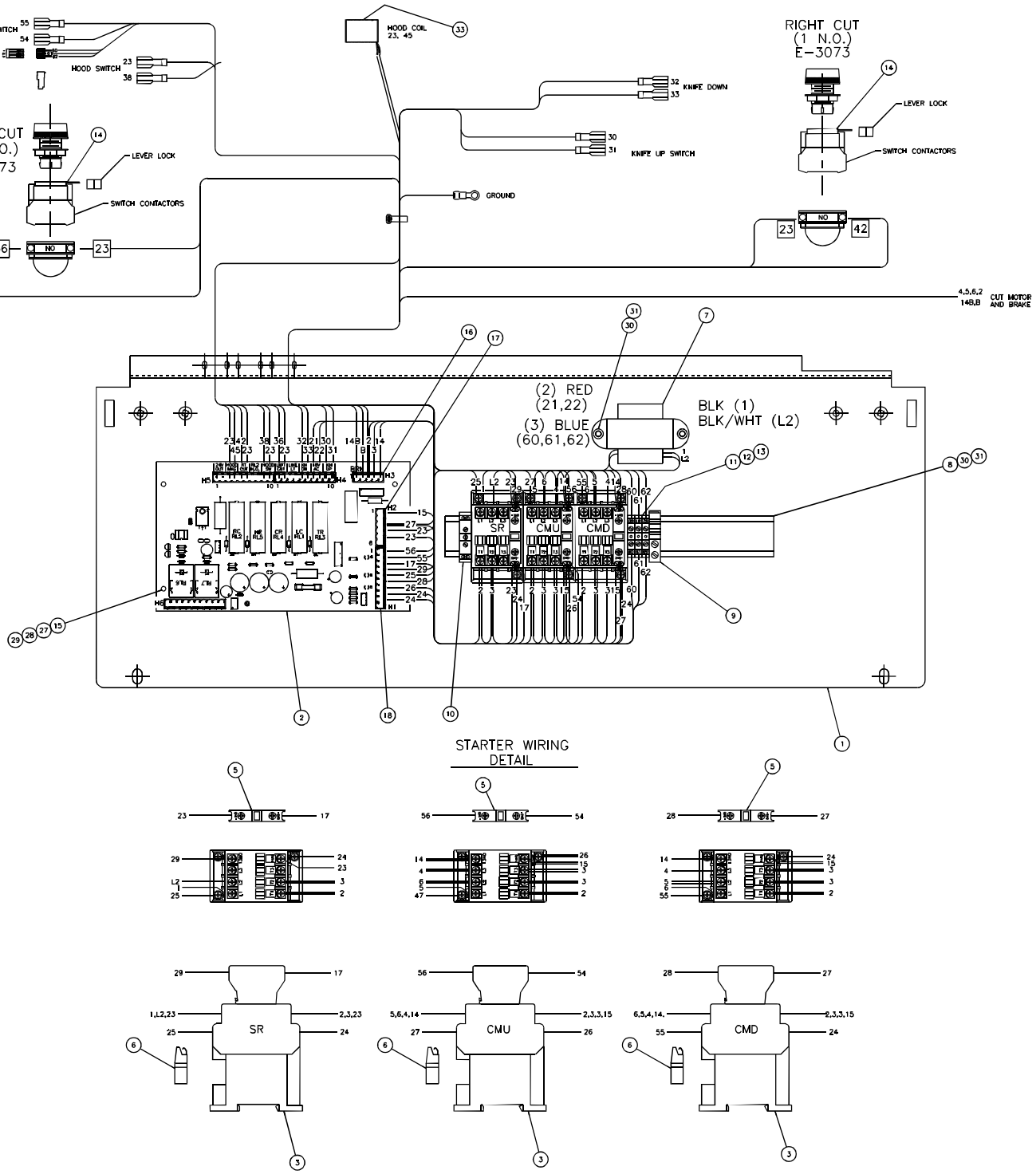
MyBinding.com
When Image Matters.



MyBinding.com
When Image Matters.

4.35 Electrical Power Panel Assembly (Models: SA, 120V, 60 Hz)

EE-3154, Rev. D



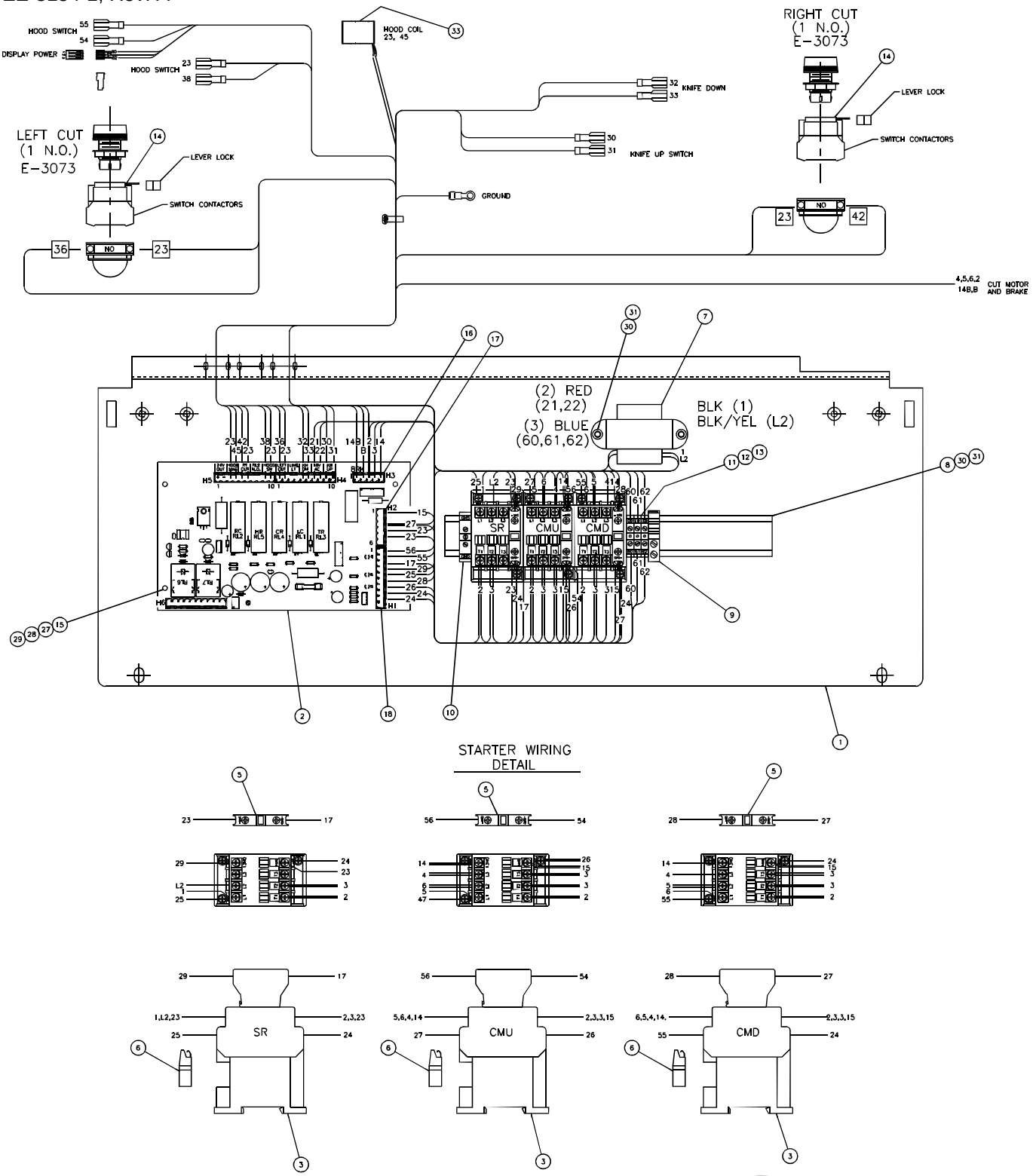
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	63039	PANEL – ELECTRICAL	1
2	EE-3132	PC BOARD ASSEMBLY – CONTROLS	1
3	E-2805-2	STARTER – MOTOR (S,CMD,CMU RELAYS)	3
4			
5	E-2376-3	AUXILARY CONTACTOR – N.C.	3
6	E-1736-4	AUXILARY QUENCHARC – STARTER RELAY	3
7	E-2742-7	TRANSFORMER	1
8	E-1977-14	RAIL – TERMINAL BLOCK, 11-1/2" LONG	1
9	E-2070-1	END BRACKET	1
10	E-2068-3	TERMINAL BLOCK – GROUNDING	1
11	E-2068-8	TERMINAL BLOCK – #10 GA.	3
12	E-1356-	LABEL – TERMINAL BLOCK	1
13	E-1356-	LABEL – TERMINAL BLOCK	1
14	E-3073	SWITCH – GREEN PUSHBUTTON (1 N.O.)	2
15	E-1152-56	SPACER – 1/2" LONG	4
16	E-2066-5	HEADER – PLUG-IN 5 POS. (PHOENIX)	1
17	E-2066-6	HEADER – PLUG-IN 5 POS. (PHOENIX)	1
18	E-2066-10	HEADER – PLUG-IN 10 POS. (H1,H4,H5)	3
19	E-1214-49	CONNECTOR – 1/4" FULLY INS. Q.D. (16-14)	2
20	E-1214-64	CONNECTOR – 1/4" NON-INS. RING. (14-16)	1
21	E-1214-65	CONNECTOR – 1/4" FULLY INS. Q.D. (18-22)	8
22	E-1214-4	CONNECTOR – #8 INS. LOCKING FORK (16-22)	17
23	E-702-R	WIRE – #14 GA. RED MTW 593" TOTAL	1
24	E-2743-1	WIRE – #14 GA. EURO GND MTW 34" TOTAL	1
25	E-709-R	WIRE – #18 GA. RED MTW 394" TOTAL	1
26	E-1163-10	WIRE – #20 GA. RED MTW 1207" TOTAL	1
27	H-6423-#6	NUT – #6-32NC HEX (KEP STYLE)	4
28	H-7324-#6	WASHER – #6 INT. TOOTHLOCK	4
29	H-6910-63203	SCREW – #6-32 X 3/8" BUT HD	4
30	H-7324-#10	WASHER – #10 INT. TOOTHLOCK	2
31	H-6910-102403	SCREW – #10-24 X 3/8" BUT HD	2
32	S-1694	TIE WRAP – WIRE	24
33	E-3111	COIL – HOOD	1

MyBinding.com
When Image Matters.

4.36 Electrical Power Panel Assembly (Models: SA, 230V, 50/60 Hz)

EE-3154-1, Rev. A



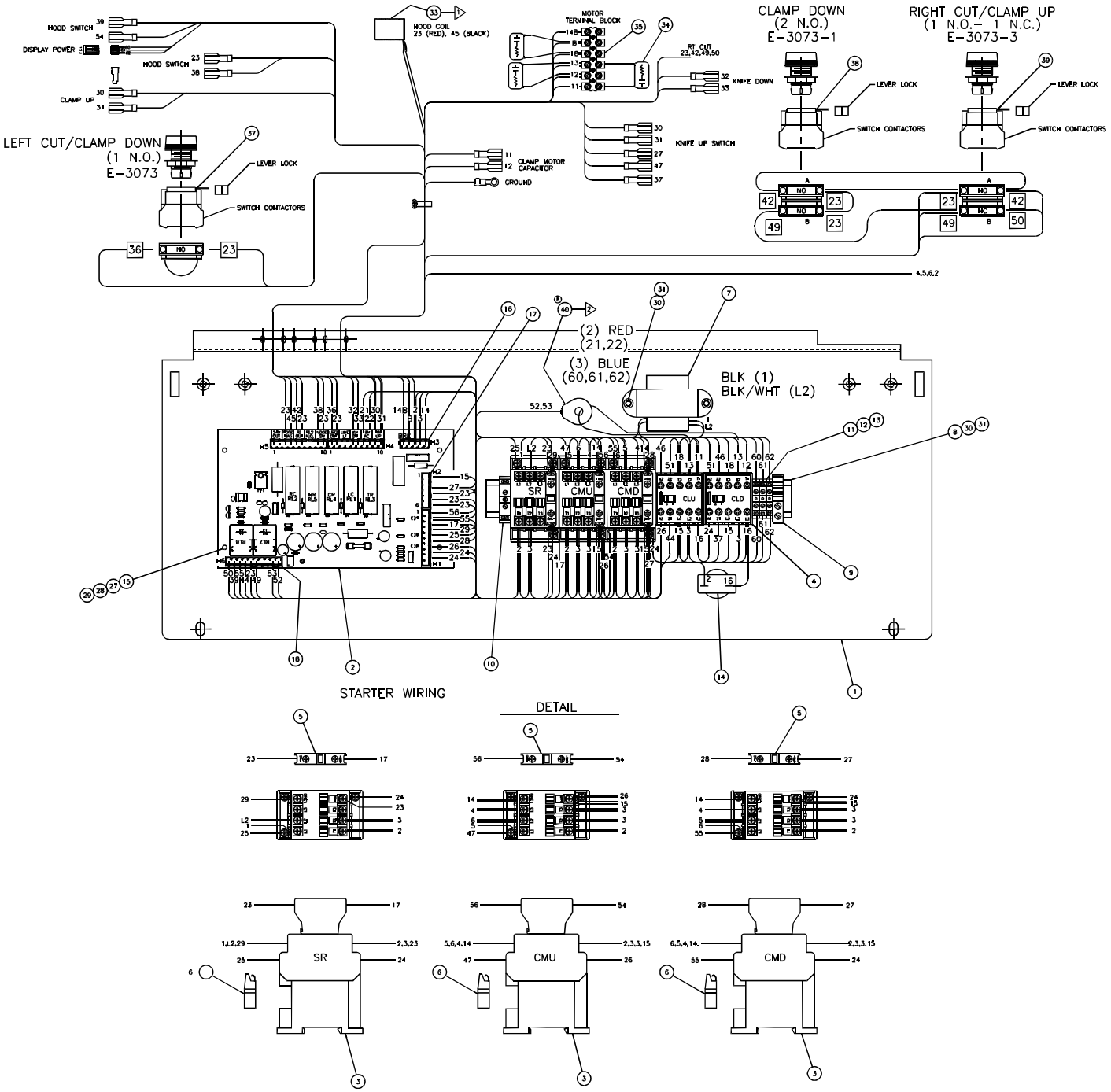
MyBinding.com When Image Matters.

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	63039	PANEL – ELECTRICAL	1
2	EE-3132	PC BOARD ASSEMBLY – CONTROLS	1
3	E-2805-2	STARTER – MOTOR (S,CMD,CMU RELAYS)	3
4			
5	E-2376-3	AUXILARY CONTACTOR – N.C.	3
6	E-1736-4	AUXILARY QUENCHARC – STARTER RELAY	3
7	E-2742-7	TRANSFORMER	1
8	E-1977-14	RAIL – TERMINAL BLOCK, 11-1/2" LONG	1
9	E-2070-1	END BRACKET	1
10	E-2068-3	TERMINAL BLOCK – GROUNDING	1
11	E-2068-8	TERMINAL BLOCK – #10 GA.	3
12	E-1356-	LABEL – TERMINAL BLOCK	1
13	E-1356-	LABEL – TERMINAL BLOCK	1
14	E-3073	SWITCH – GREEN PUSHBUTTON (1 N.O.)	2
15	E-1152-56	SPACER – 1/2" LONG	4
16	E-2066-5	HEADER – PLUG-IN 5 POS. (PHOENIX)	1
17	E-2066-6	HEADER – PLUG-IN 5 POS. (PHOENIX)	1
18	E-2066-10	HEADER – PLUG-IN 10 POS. (H1,H4,H5)	3
19	E-1214-49	CONNECTOR – 1/4" FULLY INS. Q.D. (16-14)	2
20	E-1214-64	CONNECTOR – 1/4" NON-INS. RING. (14-16)	1
21	E-1214-65	CONNECTOR – 1/4" FULLY INS. Q.D. (18-22)	8
22	E-1214-4	CONNECTOR – #8 INS. LOCKING FORK (16-22)	17
23	E-702-R	WIRE – #14 GA. RED MTW 593" TOTAL	1
24	E-2743-1	WIRE – #14 GA. EURO GND MTW 34" TOTAL	1
25	E-709-R	WIRE – #18 GA. RED MTW 394" TOTAL	1
26	E-1163-10	WIRE – #20 GA. RED MTW 1207" TOTAL	1
27	H-6423-#6	NUT – #6-32NC HEX (KEP STYLE)	4
28	H-7324-#6	WASHER – #6 INT. TOOTHLOCK	4
29	H-6910-63203	SCREW – #6-32 X 3/8" BUT HD	4
30	H-7324-#10	WASHER – #10 INT. TOOTHLOCK	2
31	H-6910-102403	SCREW – #10-24 X 3/8" BUT HD	2
32	S-1694	TIE WRAP – WIRE	24
33	E-3111	COIL – HOOD	1

MyBinding.com
When Image Matters.

4.37 Electrical Power Panel Assembly (Models: A/AEP, 120V, 60 Hz)

EE-3133, Rev. E



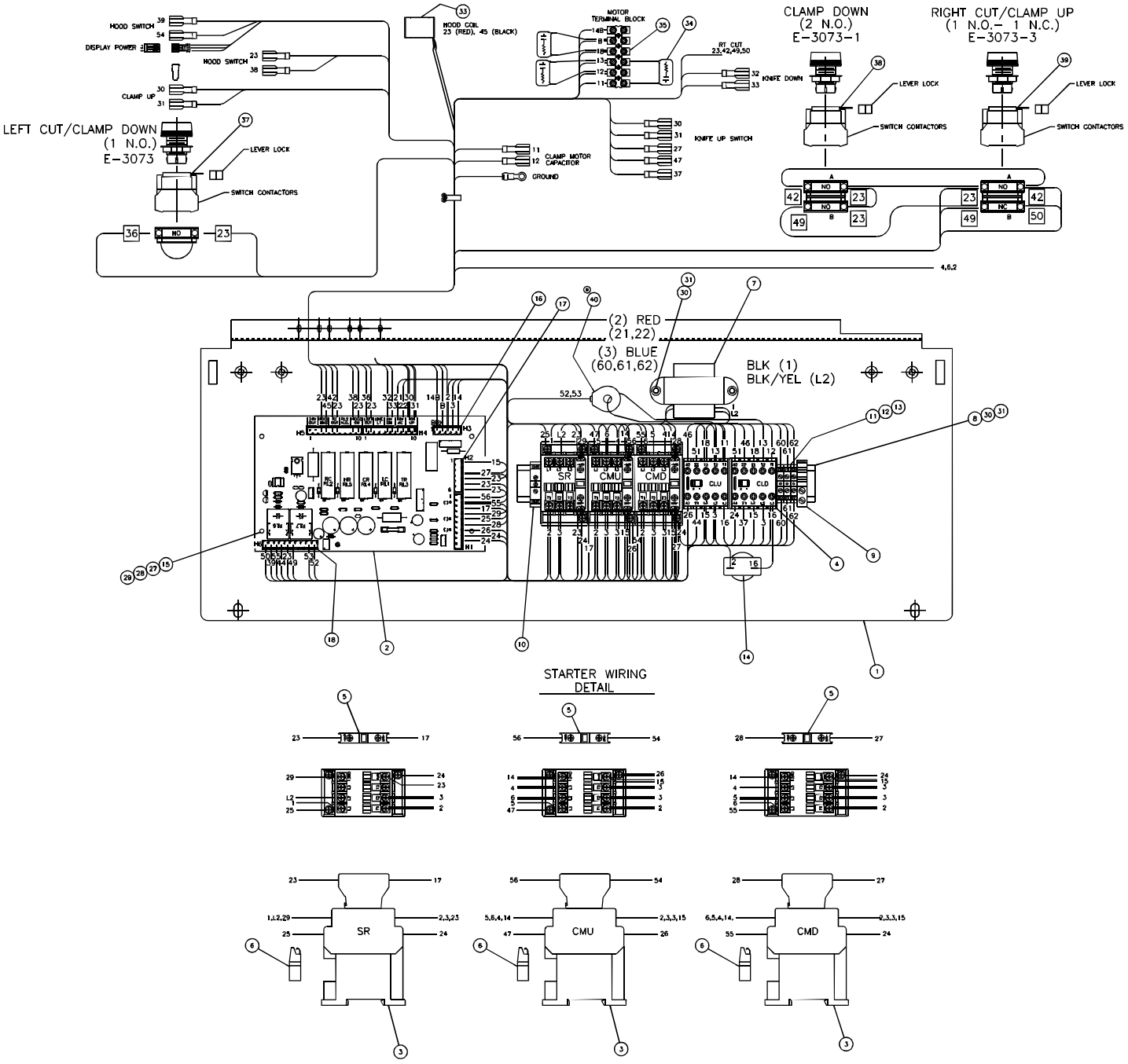
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	63039	PANEL – ELECTRICAL	1
2	EE-3132	PC BOARD ASSEMBLY – CONTROLS	1
3	E-2805-2	STARTER – MOTOR (S,CMD,CMU RELAYS)	3
4	E-2403-6	CONTACTOR – RELAY (INTERNAL QA)	2
5	E-2376-3	AUXILARY CONTACTOR – N.C.	3
6	E-1736-4	AUXILARY QUENCHARC – STARTER RELAY	3
7	E-2742-7	TRANSFORMER	1
8	E-1977-14	RAIL – TERMINAL BLOCK, 11-1/2" LONG	1
9	E-2070-1	END BRACKET	1
10	E-2068-3	TERMINAL BLOCK – GROUNDING	1
11	E-2068-8	TERMINAL BLOCK – #10 GA.	3
12	E-1356-( )	LABEL – TERMINAL BLOCK	1
13	E-1356-( )	LABEL – TERMINAL BLOCK	1
14	E-3153	CIRCUIT BREAKER – 6 AMP	1
15	E-1152-56	SPACER – 1/2" LONG	4
16	E-2066-5	HEADER – PLUG-IN 5 POS. (PHOENIX)	1
17	E-2066-6	HEADER – PLUG-IN 5 POS. (PHOENIX)	1
18	E-2066-10	HEADER – PLUG-IN 10 POS. (PHOENIX)	4
19	E-1214-49	CONNECTOR – 1/4" FULLY INS. Q.D. (16-14)	6
20	E-1214-64	CONNECTOR – 1/4" NON-INS. RING. (14-16)	1
21	E-1214-65	CONNECTOR – 1/4" FULLY INS. Q.D. (18-22)	12
22	E-1214-4	CONNECTOR – #8 INS. LOCKING FORK (16-22)	29
23	E-702-R	WIRE – #14 GA. RED MTW 830" TOTAL	1
24	E-2743-1	WIRE – #14 GA. EURO GND MTW 28" TOTAL	1
25	E-709-R	WIRE – #18 GA. RED MTW 424" TOTAL	1
26	E-1163-10	WIRE – #20 GA. RED MTW 1263" TOTAL	1
27	H-6423-#6	NUT – #6-32NC HEX (KEP STYLE)	4
28	H-7324-#6	WASHER – #6 INT. TOOTHLOCK	4
29	H-6910-63203	SCREW – #6-32 X 3/8" BUT HD	4
30	H-7324-#10	WASHER – #10 INT. TOOTHLOCK	2
31	H-6910-102403	SCREW – #10-24 X 3/8" BUT HD	2
32	S-1694	TIE WRAP – WIRE	24
33	E-3111	COIL – HOOD	1
34	E-1736-2	QUENCHARC – WIRE LEADS	3
35	E-2626-6	TERMINAL BLOCK – 6 POSITION (MOTOR)	1
36	E-2322-3	PLUG – 3 POS (DISPLAY POWER)	1
37	E-3073	SWITCH – GREEN PUSHBUTTON (1 N.O.)	1
38	E-3073-1	SWITCH – GREEN PUSHBUTTON (2 N.O.)	1
39	E-3073-3	SWITCH – GREEN PUSHBUTTON (1 N.O., 1 N.C.)	1
40	E-3149	CURRENT TRANSFORMER	1

MyBinding.com
When Image Matters.

4.38 Electrical Power Panel Assembly (Models: A/AEP, 230V, 50/60 Hz)

EE-3133-1, Rev. B



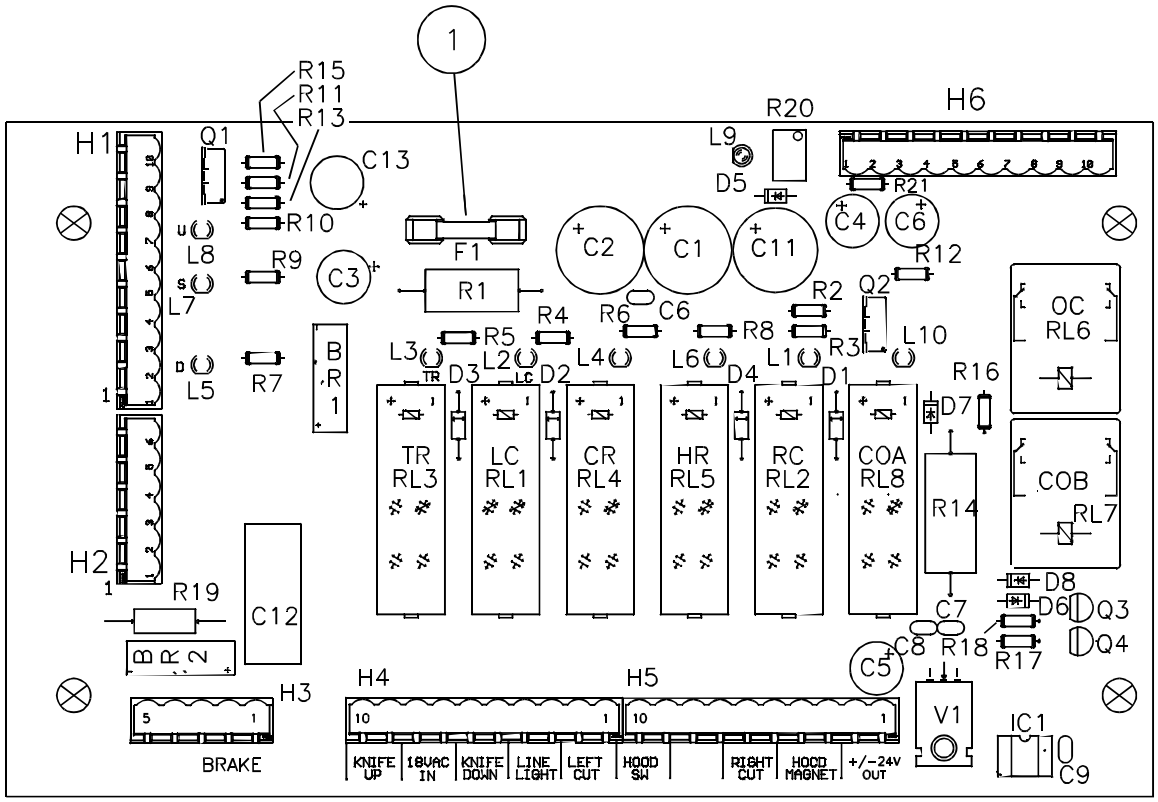
MyBinding.com
When Image Matters.

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	63039	PANEL – ELECTRICAL	1
2	EE-3165	PC BOARD ASSEMBLY – CONTROLS (230V)	1
3	E-2805-2	STARTER – MOTOR (S,CMD,CMU RELAYS)	3
4	E-2403-6	CONTACTOR – RELAY (INTERNAL QA)	2
5	E-2376-3	AUXILARY CONTACTOR – N.C.	3
6	E-1736-4	AUXILARY QUENCHARC – STARTER RELAY	3
7	E-2742-7	TRANSFORMER	1
8	E-1977-14	RAIL – TERMINAL BLOCK, 11-1/2" LONG	1
9	E-2070-1	END BRACKET	1
10	E-2068-3	TERMINAL BLOCK – GROUNDING	1
11	E-2068-8	TERMINAL BLOCK – #10 GA.	3
12	E-1356-( )	LABEL – TERMINAL BLOCK	1
13	E-1356-( )	LABEL – TERMINAL BLOCK	1
14	E-3153	CIRCUIT BREAKER – 6 AMP	1
15	E-1152-56	SPACER – 1/2" LONG	4
16	E-2066-5	HEADER – PLUG-IN 5 POS. (PHOENIX)	1
17	E-2066-6	HEADER – PLUG-IN 5 POS. (PHOENIX)	1
18	E-2066-10	HEADER – PLUG-IN 10 POS. (PHOENIX)	4
19	E-1214-49	CONNECTOR – 1/4" FULLY INS. Q.D. (16-14)	6
20	E-1214-64	CONNECTOR – 1/4" NON-INS. RING. (14-16)	1
21	E-1214-65	CONNECTOR – 1/4" FULLY INS. Q.D. (18-22)	12
22	E-1214-4	CONNECTOR – #8 INS. LOCKING FORK (16-22)	29
23	E-702-R	WIRE – #14 GA. RED MTW 743" TOTAL	1
24	E-2743-1	WIRE – #14 GA. EURO GND MTW 28" TOTAL	1
25	E-709-R	WIRE – #18 GA. RED MTW 424" TOTAL	1
26	E-1163-10	WIRE – #20 GA. RED MTW 1263" TOTAL	1
27	H-6423-#6	NUT – #6-32NC HEX (KEP STYLE)	4
28	H-7324-#6	WASHER – #6 INT. TOOTHLOCK	4
29	H-6910-63203	SCREW – #6-32 X 3/8" BUT HD	4
30	H-7324-#10	WASHER – #10 INT. TOOTHLOCK	2
31	H-6910-102403	SCREW – #10-24 X 3/8" BUT HD	2
32	S-1694	TIE WRAP – WIRE	24
33	E-3111	COIL – HOOD	1
34	E-1736-2	QUENCHARC – WIRE LEADS	3
35	E-2626-6	TERMINAL BLOCK – 6 POSITION (MOTOR)	1
36	E-2322-3	PLUG – 3 POS (DISPLAY POWER)	1
37	E-3073	SWITCH – GREEN PUSHBUTTON (1 N.O.)	1
38	E-3073-1	SWITCH – GREEN PUSHBUTTON (2 N.O.)	1
39	E-3073-3	SWITCH – GREEN PUSHBUTTON (1 N.O., 1 N.C.)	1
40	E-3149	CURRENT TRANSFORMER	1

MyBinding.com When Image Matters.

4.39 Relay Board Assembly (Models: SA/A/AEP, 120V, 60 Hz)

EE-3132, Rev. C

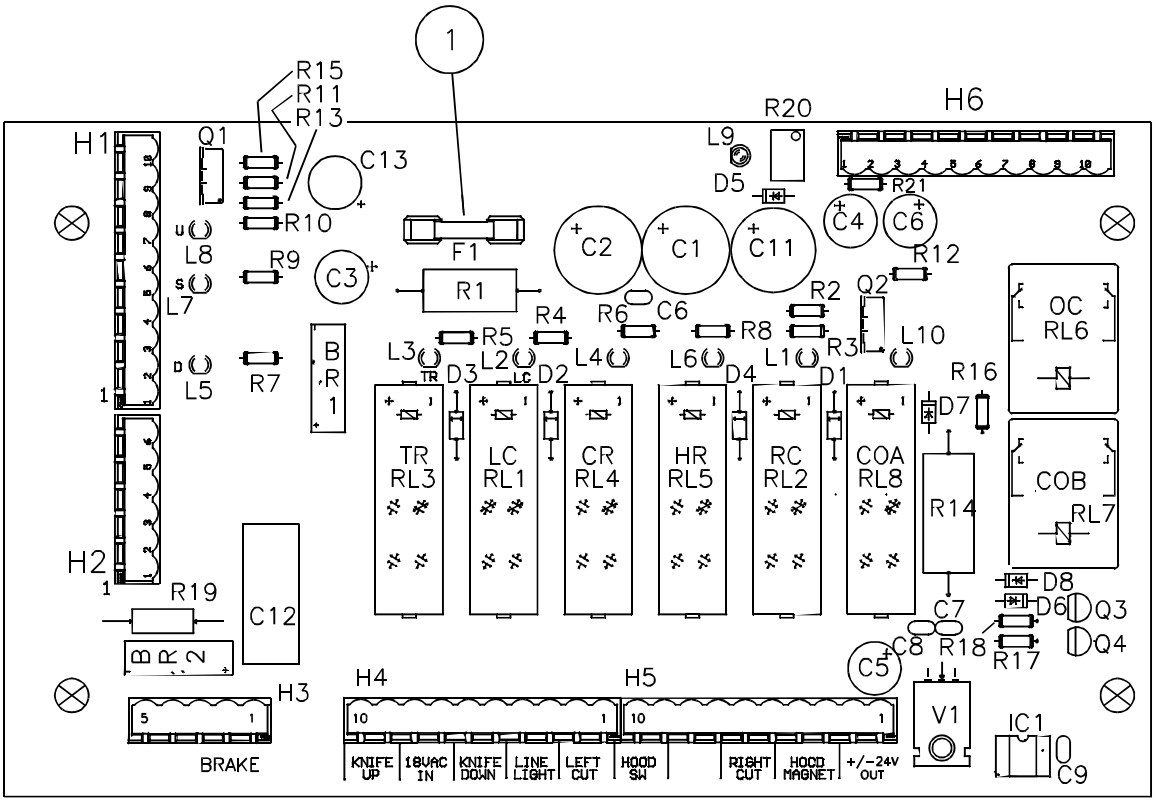


NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	E-2330	FUSE - 1A SB GLASS, METRIC	1
2			
3			
4			
5			

MyBinding.com When Image Matters.

4.40 Relay Board Assembly (Models: SA/A/AEP, 230V, 50/60 Hz)

EE-3165, Rev. A



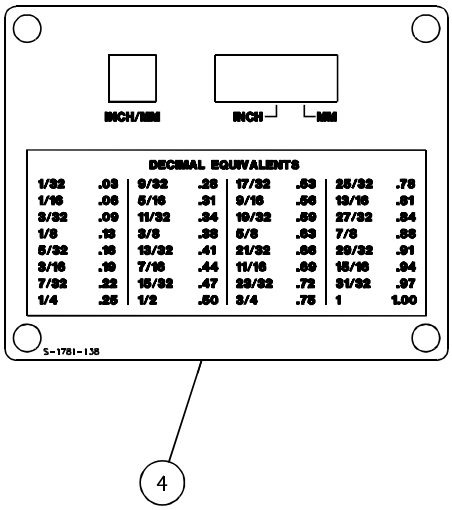
NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	E-2330	FUSE – 1A SB GLASS, METRIC	1
2			
3			
4			
5			

MyBinding.com When Image Matters.

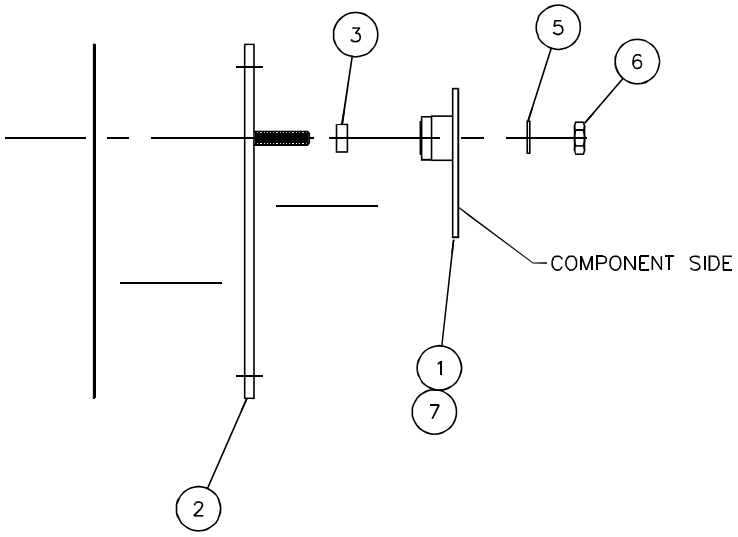
4.41 Display Assembly – (Models: SA, 120/230V, 50/60 Hz)

EE-3164, Rev. A

FRONT VIEW



EXPLODED SIDE VIEW



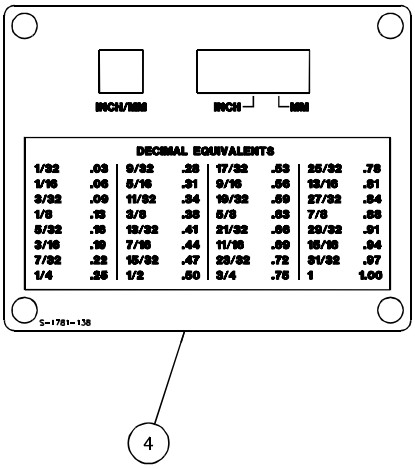
NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	EE-3065	DISPLAY ASM. – DIGITAL	1
2	63074	PANEL – DIGITAL DISPLAY	1
3	E-1152-71	SPACER – 1/8" LONG	2
4	S-1781-138	LABEL – DIGITAL DISPLAY	1
5	11288-7	WASHER – PLASTIC (NON-CONDUCTIVE)	2
6	H-6423-#6	NUT, #6-32NC HEX	4
7	EE-1888-17-X.X	IC CHIP – PROGRAMMED	1

MyBinding.com When Image Matters.

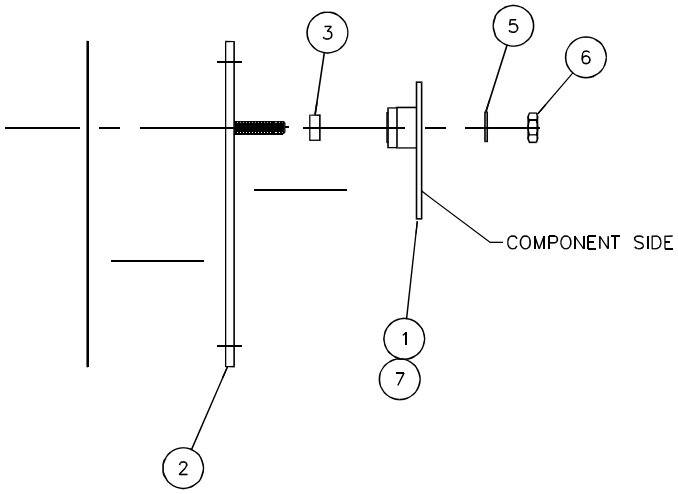
4.42 Display Assembly – (Models: A, 120/230V, 50/60 Hz)

EE-3158, Rev. A

FRONT VIEW



EXPLODED SIDE VIEW



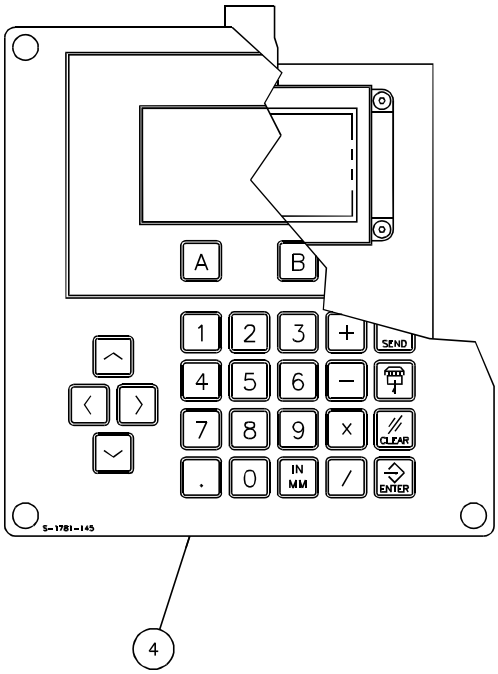
NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	EE-3065	DISPLAY ASM. – DIGITAL	1
2	63074	PANEL – DIGITAL DISPLAY	1
3	E-1152-71	SPACER – 1/8" LONG	2
4	S-1781-138	LABEL – DIGITAL DISPLAY	1
5	11288-7	WASHER – PLASTIC (NON-CONDUCTIVE)	2
6	H-6423-#6	NUT, #6-32NC HEX	4
7	EE-1888-17-X.X	IC CHIP – PROGRAMMED	1

MyBinding.com
When Image Matters.

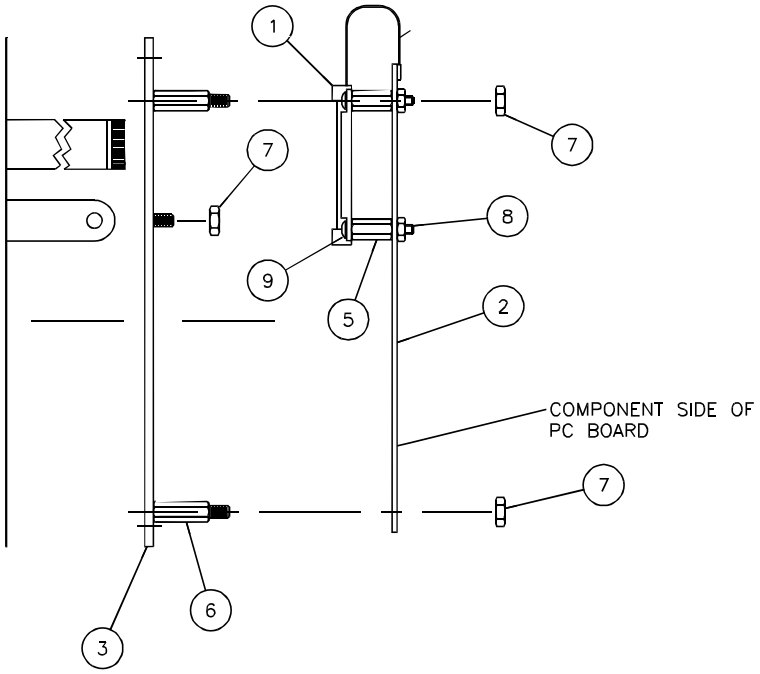
4.43 Display Assembly – (Models: AEP, 120/230V, 50/60 Hz)

EE-3157, Rev. A

FRONT VIEW



EXPLODED SIDE VIEW



NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	E-3120	DISPLAY – LCD, 128 X 64	1
2	EE-3152	PCB ASM. – LCD DISPLAY CONTROL	1
3	63082	PANEL – LCD DISPLAY	1
4	S-1781-145	LABEL – LCD DISPLAY	1
5	E-1152-83	SPACER/STANDOFF – #4-40 X 1/2	4
6	E-1152-108	SPACER/STANDOFF – #6-32 X 5/8	4
7	H-6423-#6	NUT, #6-32NC HEX	4
8	H-6423-#4	NUT, #4-40NC HEX	4
9	H-6910-44003	SCREW, #4-40NC X 3/8" BUT HD CAP	4
10			

MyBinding.com When Image Matters.

NOTES

MyBinding.com
When Image Matters.